**As filed with the Securities and Exchange Commission on October 25, 2013**

**Registration No. 333-191055**

**UNITED STATES**
**SECURITIES AND EXCHANGE COMMISSION**
**Washington, D.C. 20549**

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**Amendment No. 1**
**to**
**FORM S-4**
**REGISTRATION STATEMENT UNDER**
**THE SECURITIES ACT OF 1933**

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# PHARMATHENE, INC.

(Exact name of registrant as specified in its Certificate of Incorporation)

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| **Delaware** | **2384** | **20-2726770** |
|---|---|---|
| (State or other jurisdiction of incorporation or organization) | (Primary Standard Industrial Classification Code Number) | (I.R.S. Employer Identification Number) |

**One Park Place Suite 450**
**Annapolis, MD 21401**
**(410) 269-2600**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**Eric I. Richman**
**Chief Executive Officer**
**PharmAthene, Inc.**
**One Park Place**
**Suite 450**
**Annapolis, MD 21401**
**(410) 269-2600**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

---

**Copies to:**

| **Jeffrey A. Baumel, Esq.** | **Stephen M. Graham, Esq.** |
|---|---|
| **Dentons US LLP** | **Fenwick & West LLP** |
| **1221 Avenue of the Americas** | **1191 Second Avenue, 10th Floor** |
| **New York, New York 10020-1089** | **Seattle, Washington 98101** |
| **(212) 768-6700** | **(206) 389-4510** |

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**Approximate date of commencement of proposed sale to the public:** As soon as practicable after the effective date of this registration statement and upon completion of the merger described herein.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box: o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

| Large accelerated filer o | Accelerated filer x | Non-accelerated filer o (Do not check if a smaller reporting company) | Smaller reporting company o |
|---|---|---|---|

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13e-4(i) (Cross-Border Issuer Tender Offer) o

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer) o

**The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall**

**thereafter become effective in accordance with Section 8(a) of the Securities Act or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

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The information in this proxy statement/prospectus/consent solicitation is not complete and may be changed. A registration statement relating to the securities described in this proxy statement/prospectus/consent solicitation has been filed with the Securities and Exchange Commission. These securities may not be sold nor may offers to buy these securities be accepted until the registration statement filed with the Securities and Exchange Commission is effective. This proxy statement/prospectus/consent solicitation is not an offer to sell nor is it soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

**PRELIMINARY AND SUBJECT TO COMPLETION, DATED OCTOBER 25, 2013**



PharmAthene is furnishing this proxy statement/prospectus/consent solicitation to the holders of common stock of PharmAthene, Inc., or PharmAthene, and to the holders of capital stock of Theraclone Sciences, Inc., or Theraclone.

As previously announced, the boards of directors of PharmAthene and Theraclone have each unanimously approved the Agreement and Plan of Merger, dated as of July 31, 2013, or the Merger Agreement, by and among PharmAthene, Theraclone, Taurus Merger Sub, Inc., or Merger Sub, a wholly owned subsidiary of PharmAthene and Steven Gillis, Ph.D., as Securityholders' Representative, pursuant to which Merger Sub will merge with and into Theraclone and Theraclone will survive the merger as a wholly owned subsidiary of PharmAthene. Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis.

PharmAthene is soliciting proxies for use at a special meeting of stockholders to consider and vote upon the following proposals: (i) to approve the issuance of shares of PharmAthene common stock in the merger; (ii) to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue; (iii) to elect nine persons to serve on the Board of Directors of PharmAthene until PharmAthene's next annual meeting of stockholders; (iv) to adopt an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and (v) to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

Theraclone is soliciting written consents from its stockholders to consider and vote on a proposal to approve the merger and adopt and approve the Merger Agreement and the other transactions contemplated thereby.

PharmAthene's common stock is listed on the NYSE MKT LLC under the symbol "PIP". On October , 2013, the last trading day before the date of this proxy statement/prospectus/consent solicitation, the closing sales price per share of PharmAthene's common stock was $ . Theraclone is a privately-held company, and there is currently no public market for its securities.

This proxy statement/prospectus/consent solicitation provides you with detailed information about PharmAthene, Theraclone, the merger and the Merger Agreement. Please give all of the information in this proxy statement/ prospectus/consent solicitation your careful attention. **Please pay particular attention to the section entitled "RISK FACTORS" beginning on page 35 for a discussion of the risks related to the merger, the combined company following completion of the merger, and the business and operations of each of PharmAthene and Theraclone.**

PharmAthene and Theraclone are excited about the opportunities that the proposed merger brings to both PharmAthene and Theraclone stockholders and thank you for your consideration and continued support.

**Eric I. Richman**
*Chief Executive Officer*
PharmAthene, Inc.

**Clifford J. Stocks**
*Chief Executive Officer*
Theraclone Sciences, Inc.

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the PharmAthene common stock to be issued pursuant to the merger or determined if this proxy statement/prospectus/consent solicitation is truthful or complete. Any representation to the contrary is a criminal offense.**

This proxy statement/prospectus/consent solicitation is dated October , 2013 and is first being mailed or otherwise delivered to stockholders of PharmAthene and Theraclone on or about October , 2013.

## REFERENCES TO ADDITIONAL INFORMATION

PharmAthene has supplied all information contained in this proxy statement/prospectus/consent solicitation relating to PharmAthene and Theraclone has supplied all information contained in this proxy statement/prospectus/consent solicitation relating to Theraclone. This proxy statement/prospectus/consent solicitation incorporates or refers to important business and financial information about PharmAthene that is not included in or delivered with this proxy statement/prospectus/consent solicitation. Such information is available without charge to stockholders of PharmAthene upon written request at the following address: PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary, or by telephone (410) 269-2600. If you would like to request documents from Theraclone, please send a request to: Theraclone Sciences, Inc., Seattle Life Sciences Building, 1124 Columbia Street, Suite 300, Seattle, WA 98104, Attention: Chief Financial Officer, or by telephone at (206) 805-1600.

**If you would like to request documents from PharmAthene, please do so at least five business days before the PharmAthene special meeting, or by November 25, 2013, in order to receive them before the PharmAthene special meeting. If you would like to request documents from Theraclone, please do so at least five business days before you deliver your written consent, which must be delivered to Theraclone by November 25, 2013. See the section entitled "WHERE YOU CAN FIND ADDITIONAL INFORMATION."**

**PharmAthene, Inc.**

**NOTICE OF SPECIAL MEETING OF STOCKHOLDERS**
**To Be Held On December 3, 2013**

Dear PharmAthene Stockholder:

A special meeting of the stockholders of PharmAthene, Inc. will be held on December 3, 2013 at 9:00 a.m., local time, at the offices of Dentons US LLP at 1301 K Street, NW, Suite 600, East Tower, Washington, DC 20005 for the following purposes:

1. To consider and vote upon a proposal to approve the issuance of PharmAthene common stock, par value $0.0001 per share, in the merger contemplated by the Agreement and Plan of Merger, dated as of July 31, 2013, by and among PharmAthene, Inc., Theraclone Sciences, Inc., Merger Sub, Inc., a wholly owned subsidiary of PharmAthene, and Steven Gillis, Ph.D., as Securityholders' Representative, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation accompanying this notice;
2. To consider and vote upon a proposal to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue;
3. To elect nine persons to serve as directors of PharmAthene until PharmAthene's next annual meeting of stockholders or until their respective successors are elected and qualified;
4. To approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and
5. To consider and vote upon a proposal to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

Stockholders also will consider and act on any other matters that may properly come before the special meeting or any adjournment or postponement thereof, including any procedural matters incident to the conduct of the special meeting.

PharmAthene's Board of Directors has fixed October 4, 2013 as the record date for the determination of PharmAthene stockholders entitled to notice of and to vote at the PharmAthene special meeting or any adjournments or postponements of the PharmAthene special meeting. Only holders of record of PharmAthene common stock at the close of business on the record date are entitled to notice of and to vote at the PharmAthene special meeting. At the close of business on the record date, PharmAthene had 52,310,913 shares of common stock outstanding and entitled to vote.

**Your vote is important. The affirmative vote of the holders of a majority of the PharmAthene common stock outstanding, entitled to vote on the proposal and present in person or represented by proxy, is required for the approval of PharmAthene Proposal Nos. 1, 4 and 5. The affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal is required for the approval of PharmAthene Proposal No. 2. The affirmative vote of holders of a plurality of the votes cast of the PharmAthene shares of common stock outstanding, entitled to vote on the proposal and present in person or represented by proxy, is required for the election of directors set forth in PharmAthene Proposal No. 3.**

**Even if you plan to attend the PharmAthene special meeting in person, PharmAthene requests that you complete, sign and return the enclosed proxy card or otherwise provide your proxy and thus ensure that your shares will be represented at the PharmAthene special meeting if you are unable to attend. If you sign, date and mail your proxy card or otherwise provide your proxy without indicating how you wish to vote, your proxy will be counted as a vote in favor of PharmAthene Proposals Nos. 1, 2, 4, and 5 and for each of the nominees set forth in PharmAthene, Proposal No. 3. If you fail to return your proxy card, or otherwise provide your proxy the effect will be that your shares will not be counted for**

**purposes of determining whether a quorum is present at the PharmAthene special meeting. If you do attend the PharmAthene special meeting and wish to vote in person, you may withdraw your proxy and vote in person.**

**The PharmAthene Board of Directors has determined that each of the Proposals noted above is advisable and in the best interest of PharmAthene and its stockholders and has unanimously approved each Proposal. The Board of Directors of PharmAthene unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene Proposals Nos. 1, 2, 4, and 5 and "FOR" each of the nominees set forth in PharmAthene Proposal No. 3.**

By Order of the Board of Directors,

Jordan P. Karp
*Corporate Secretary*
Annapolis, Maryland
October , 2013

**Theraclone Sciences, Inc.**
**Seattle Life Sciences Building**
**1124 Columbia Street, Suite 300**
**Seattle, WA 98104**

**NOTICE OF SOLICITATION OF WRITTEN CONSENT**

Dear Theraclone Stockholder:

Theraclone Sciences, Inc., a Delaware of corporation, has entered into an Agreement and Plan of Merger dated as of July 31, 2013, by and among PharmAthene, Inc., Taurus Merger Sub, Inc., Theraclone Sciences, Inc. and Steven Gillis, Ph.D., as Securityholders' Representative, a copy of which is attached as Annex A to this proxy statement/prospectus/consent solicitation, pursuant to which Merger Sub would merge with and into Theraclone, with Theraclone surviving the merger as a wholly owned subsidiary of PharmAthene, and pursuant to which PharmAthene would issue shares of common stock to Theraclone's stockholders.

This proxy statement/prospectus/consent solicitation is being delivered to you on behalf of Theraclone's Board of Directors to request (i) that holders of Theraclone common stock and preferred stock as of October 22, 2013, or the record date, execute and return written consents to approve the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby and (ii) that holders of Theraclone preferred stock as of the record date, execute and return written consents to approve the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

As a record holder of outstanding Theraclone common stock or preferred stock on the record date, you are urged to complete, date and sign the enclosed written consent and promptly return it to Theraclone. Theraclone's Board of Directors has set December 3, 2013 as the target final date for receipt of written consents. Theraclone reserves the right to extend the final date for receipt of written consents without any prior notice to stockholders.

This proxy statement/prospectus/consent solicitation describes the Merger Agreement and the actions to be taken in connection with the merger and provides additional information about the parties involved. Please give this information your careful attention. A summary of the appraisal rights that may be available to you is provided in the section entitled "THE MERGER — Appraisal Rights."

Written consents are required from (i) the holders of at least (a) a majority of the outstanding shares of Theraclone common stock and preferred stock, voting together as a single class on an as-converted-to-common stock basis and (b) a majority of the outstanding shares of the Theraclone preferred stock, voting together as a single class on an as-converted-to-common stock basis each outstanding on the applicable record date, for the merger, the Merger Agreement and the transactions contemplated thereby and (ii) the holders of at least a majority of the outstanding shares of Theraclone preferred stock for the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

Regardless of the number of shares you own, your written consent is important. Please complete, date and sign the written consent furnished with this proxy statement/prospectus/consent solicitation and return it promptly to Theraclone by one of the means described in "MATTERS TO BE PRESENTED TO THERACLONE'S STOCKHOLDERS — Submission of Consents." You may change or revoke your consent to the proposal at any time before the consents of holders of a sufficient number of shares to approve and adopt such proposal have been filed with Theraclone's Corporate Secretary.

**THE THERACLONE BOARD OF DIRECTORS HAS CAREFULLY CONSIDERED THE MERGER AND THE TERMS OF THE MERGER AGREEMENT AND HAS DETERMINED THAT THE MERGER IS FAIR, ADVISABLE AND IN THE BEST INTERESTS OF THERACLONE AND ITS STOCKHOLDERS. ACCORDINGLY, THE THERACLONE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT THERACLONE STOCKHOLDERS APPROVE THE MERGER AND ADOPT AND APPROVE THE MERGER AGREEMENT AND THE TRANSACTIONS CONTEMPLATED THEREBY AND THERACLONE PREFERRED STOCKHOLDERS APPROVE THE CONVERSION OF THE SHARES OF THERACLONE PREFERRED STOCK INTO SHARES OF THERACLONE COMMON STOCK ON A ONE-FOR-ONE BASIS BY EXECUTING AND DELIVERING THE WRITTEN CONSENT FURNISHED WITH THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION.**

**By Order Of The Board Of Directors**

Russ Hawkinson
*Corporate Secretary*

Seattle, Washington
October , 2013

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## QUESTIONS AND ANSWERS ABOUT THE MERGER

*The following section provides answers to frequently asked questions about the merger and the effect of the merger on holders of PharmAthene securities and Theraclone securities, the PharmAthene special meeting of stockholders and the Theraclone stockholder action by written consent. This section, however, only provides summary information. PharmAthene and Theraclone urge you to carefully read the remainder of this proxy statement/prospectus/consent solicitation, including the annexes to this proxy statement/prospectus/ consent solicitation, because the information in this section does not provide all of the information that might be important to you regarding the merger and the other matters being considered at the PharmAthene special meeting of stockholders and by the Theraclone stockholder action by written consent.*

*As used in this proxy statement/prospectus/consent solicitation, references to PharmAthene refer to PharmAthene, Inc., a Delaware corporation, references to Theraclone refer to Theraclone Sciences, Inc., a Delaware corporation, references to Merger Sub refer to Taurus Merger Sub, Inc., a Delaware corporation, references to the combined company refer collectively to PharmAthene and its subsidiaries following the proposed transaction described in this proxy statement/prospectus/consent solicitation, references to the Merger Agreement refer to the Agreement and Plan of Merger dated as of July 31, 2013, by and among PharmAthene, Merger Sub, Theraclone and Steven Gillis, Ph.D., as Securityholders' Representative, a copy of which is attached as Annex A to this proxy statement/prospectus/consent solicitation, references to merger refer to the merger of Merger Sub with and into Theraclone, with Theraclone as the surviving, wholly owned subsidiary of PharmAthene as contemplated under the Merger Agreement, and references to the Effective Time refer to the Effective Time of the merger as contemplated under the Merger Agreement.*

### Questions and Answers Regarding the Merger

**Q: What is the transaction?**

A: PharmAthene, Merger Sub, a wholly owned subsidiary of PharmAthene, Theraclone and Steven Gillis, Ph.D., as Securityholders' Representative have entered into the Merger Agreement that contains the terms and conditions of the proposed business combination of PharmAthene and Theraclone. Pursuant to the terms and conditions of the Merger Agreement, Merger Sub will merge with and into Theraclone, with Theraclone surviving the merger as a wholly owned subsidiary of PharmAthene.

All outstanding shares of Theraclone preferred stock will be converted into shares of Theraclone common stock on a one-for-one basis immediately prior to the Effective Time. At the Effective Time, all outstanding shares of Theraclone common stock will be converted into shares of PharmAthene common stock. Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis.

**Q: Why am I receiving this proxy statement/prospectus/consent solicitation?**

A: You are receiving this proxy statement/prospectus/consent solicitation because you have been identified as a stockholder of PharmAthene or Theraclone. If you are a stockholder of record of PharmAthene as of the record date, you are entitled to vote at PharmAthene's special meeting of stockholders. If you are a stockholder of Theraclone as of the record date, you are entitled to vote by executing the Theraclone stockholder action by written consent. This document serves as a proxy statement of PharmAthene, used to solicit proxies for PharmAthene's special meeting of stockholders, as a consent solicitation of Theraclone, and as a prospectus of PharmAthene to offer shares of PharmAthene common stock to Theraclone security holders in exchange for securities of Theraclone pursuant to the terms of the Merger Agreement. This document

contains important information about the merger, the shares of PharmAthene common stock to be issued in the merger, the special meeting of PharmAthene stockholders and the written consent sought from the Theraclone stockholders and should be read carefully in its entirety.

**Q: What are the expected advantages of the proposed merger of the two companies?**

A: The combined company will have several potential advantages, including:

- becoming a leading, biologics company with vaccine and antibody expertise focused on infectious diseases and oncology;
- four clinical programs and multiple partnered preclinical programs addressing high-value markets with a significant unmet medical need;
- a robust discovery engine with validated fully human monoclonal antibody platform technology providing significant antibody discovery and collaboration opportunities;
- as a result of PharmAthene's successful breach of contract case against SIGA Technologies, Inc., or SIGA, significant revenue potential under a potential damages award from the Delaware Chancery Court related to SIGA's smallpox antiviral, Arestvyr™ (formerly ST-246®); and
- the merger of complementary businesses and research and development and operational capabilities provides the combined company with complementary capabilities to realize synergies and accelerate value to stockholders.

**Q: Who is paying for this proxy solicitation and consent solicitation?**

A: PharmAthene is conducting this proxy solicitation and Theraclone is conducting this consent solicitation and each will bear its own costs of its own solicitation, including the joint preparation, assembly, printing and mailing of this proxy statement/prospectus/consent solicitation, the proxy card and any additional information furnished to PharmAthene and Theraclone stockholders. PharmAthene and Theraclone will each bear its own legal expenses. PharmAthene may also reimburse brokerage houses and other custodians, nominees and fiduciaries for their costs of forwarding proxy materials to beneficial owners of its common stock.

**Q: What is required to consummate the merger?**

A: To consummate the merger, PharmAthene stockholders must approve: (i) the issuance of shares of PharmAthene common stock in the merger; (ii) the amendment of PharmAthene's Certificate of Incorporation to increase in the number of shares of common stock that PharmAthene may issue; (iii) the election of nine directors to PharmAthene's Board of Directors, including nominees designated by Theraclone; (iv) the amendment of PharmAthene's Bylaws to limit the ability of PharmAthene's Board of Directors, for a period to expire no later than July 31, 2015, to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and (v) a proposal to adjourn the PharmAthene special meeting, if necessary, to solicit additional proxies. In addition, Theraclone stockholders must approve the merger and adopt and approve the Merger Agreement.

The amendment to PharmAthene's Certificate of Incorporation increasing the authorized number of shares of common stock requires the affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal. The approval of the proposals to issue shares of PharmAthene common stock in the merger, to amend the Bylaws of PharmAthene to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company, and to adjourn the meeting, if necessary, to solicit additional proxies, requires the affirmative vote of the holders of a majority of the PharmAthene common stock outstanding, entitled to vote on the proposal and present in person or represented by proxy. The election of nine persons to serve on the Board of Directors of PharmAthene requires the affirmative vote of holders of a plurality of PharmAthene common stock outstanding, present in person or represented by proxy and entitled to vote on the proposal. For more information, please see the section entitled "MATTERS BEING SUBMITTED TO A VOTE OF PHARMATHENE STOCKHOLDERS."

The approval by the stockholders of Theraclone requires: (i) the holders of at least (a) a majority of the outstanding shares of Theraclone common stock and preferred stock, voting together as a single class on an as-converted-to-common stock basis and (b) a majority of the outstanding shares of the Theraclone preferred stock, voting together as a single class on an as-converted-to-common stock basis, each outstanding on the applicable record date, for the merger, the Merger Agreement and the transactions contemplated thereby; and (ii) holders of at least a majority of the outstanding shares of Theraclone preferred stock for the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis. For more information, please see the section entitled "MATTERS TO BE PRESENTED TO THERACLONE'S STOCKHOLDERS."

Concurrently and in connection with the execution of the Merger Agreement, PharmAthene's directors and executive officers, as well as a key employee, who beneficially owned approximately 7.5% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of July 31, 2013, entered into a voting agreement with Theraclone, pursuant to which each such stockholder agreed to vote its shares of PharmAthene common stock in furtherance of the transactions contemplated by the Merger Agreement and against any amendment of PharmAthene's Certificate of Incorporation or Bylaws or any other proposal or transaction, the effect of which amendment or other proposal is to delay, impair, prevent or nullify the merger or the transaction contemplated by the Merger Agreement.

In addition, concurrently with and in connection with execution of the Merger Agreement, certain of Theraclone's stockholders, who in the aggregate held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013, entered into a voting agreement with PharmAthene, pursuant to which each stockholder agreed to vote its shares of Theraclone capital stock: (i) in favor of the adoption of the Merger Agreement and any actions required in furtherance thereof; (ii) in favor of the conversion of all outstanding shares of Theraclone preferred stock into Theraclone common stock on a one-for-one basis (as of immediately prior to the Effective Time and contingent upon the merger occurring) pursuant to Theraclone's restated Certificate of Incorporation; (iii) against any other proposal or transaction involving Theraclone, the effect of which amendment or other proposal or transaction would be to delay, impair, prevent or nullify the merger or the transactions contemplated by the Merger Agreement; (iv) against any amendment of Theraclone's Certificate of Incorporation or Bylaws that changes in any manner the voting rights of any capital stock of Theraclone (other than the conversion of Theraclone preferred stock into Theraclone common stock); and (v) against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty of the Merger Agreement.

In addition to the requirement of obtaining such stockholder approvals and appropriate regulatory approvals, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived. For a more complete description of the closing conditions under the Merger Agreement, please see the section entitled "THE MERGER AGREEMENT — Conditions to Completion of the Merger."

**Q: When do PharmAthene and Theraclone expect to complete the merger?**

A: PharmAthene and Theraclone are working to complete the merger during the fourth quarter of 2013, or as soon as reasonably possible. PharmAthene and Theraclone must first obtain the necessary approvals, including the approval of their respective stockholders, and satisfy the closing conditions described in the Merger Agreement. Neither PharmAthene nor Theraclone can assure you as to whether all the conditions to the merger will be met nor can PharmAthene or Theraclone predict the exact timing of the completion of the merger. It is possible PharmAthene and Theraclone will not complete the merger.

**Q: What are the material U.S. federal income tax consequences of the merger to me?**

A: The merger has been structured to qualify as a tax-free reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended, or the Code, and the Treasury Regulations promulgated thereunder. As a result of the merger's qualification as a reorganization, it is anticipated that Theraclone stockholders will not recognize gain or loss for U.S. federal income tax purposes upon the exchange of shares of Theraclone common stock for shares of PharmAthene common stock, except with respect to cash received in lieu of fractional shares of PharmAthene common stock and except for Theraclone stockholders who exercise their appraisal rights with respect to the merger.

**Tax matters are very complicated, and the tax consequences of the merger to a particular stockholder will depend in part on such stockholder's circumstances. Accordingly, you should consult your tax advisor for a full understanding of the tax consequences of the merger to you, including the applicability and effect of federal, state, local and foreign income and other tax consequences. For more information, please see the section entitled "MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER."**

**Q: Who will be the directors of the combined company following the merger?**

A: Pursuant to a related Board of Directors composition agreement between PharmAthene and certain former stockholders of Theraclone, which is expected to be entered into at completion of the merger and is referred to as the Board Composition Agreement, the Board of Directors of the combined company will consist of five directors designated by PharmAthene and four directors designated by Theraclone. Those members designated by PharmAthene will initially be Mitchel Sayare, Ph.D., Eric I. Richman, John M. Gill, Brian A. Markison and Derace L. Schaffer, M.D. and those members designated by Theraclone will initially be Steven Gillis, Ph.D., Wende S. Hutton, Steven P. James and Clifford J. Stocks.

Under the Board Composition Agreement, the executive officers and directors, as well as a key employee, of PharmAthene, the directors of Theraclone and their affiliates, and certain holders of 5% or more of Theraclone's capital stock will agree to vote all shares owned by such holders, or over which such holders have voting control, as necessary to ensure that the PharmAthene and Theraclone designees are elected to the combined company's Board of Directors at each annual or special meeting of stockholders of PharmAthene at which directors are elected or through any action taken by written consent of the stockholders of PharmAthene by which directors are elected. These stockholders will also agree to cause the resignation of one of PharmAthene's designees upon the earlier of: (i) the full settlement or final, non-appealable resolution of PharmAthene's civil action against SIGA, which is referred to as the SIGA Determination Date; and (ii) the second anniversary of the completion of the merger, but not prior to the first anniversary of the completion of the merger. PharmAthene and Theraclone refer to this date as the Designee Resignation Date. The Board Composition Agreement will terminate on the earliest to occur of the fifth anniversary of the date of the Board Composition Agreement and the SIGA Determination Date, but not prior to the first anniversary of completion of the merger. The signing stockholders may sell their shares free of the rights and obligations under the Board Composition Agreement.

**Q: Who will be the executive officers of the combined company following the merger?**

A: Following the merger, Theraclone's current Chief Executive Officer, Clifford J. Stocks, is expected to serve as the Chief Executive Officer of the combined company, and Theraclone's current Chief Financial Officer, Russ Hawkinson, is expected to serve as its Chief Financial Officer. Additionally, Theraclone's current Chief Medical Officer, Eleanor Ramos, M.D., and current Chief Scientific Officer, Kristine Swiderek, Ph.D., are expected to serve as the combined company's Chief Medical Officer and Chief Scientific Officer, respectively. PharmAthene's Senior Vice President, Policy and Government Affairs, Francesca M. Cook and Senior Vice President and General Counsel, Jordan P. Karp, are expected to remain in their positions at the combined company. Under the Merger Agreement, PharmAthene agreed to amend its Bylaws to provide that Clifford J. Stocks may not be removed from his position as the Chief Executive Officer of the combined company without the approval of at least 66 2/3% of PharmAthene's Board of Directors, until the earliest of: (i) July 31, 2015; (ii) such time as there is a period longer than 30 days in which less than five PharmAthene Board Designees serve on the combined company's Board of Directors; and (iii) the full settlement or final, non-appealable resolution of PharmAthene's civil action against SIGA, or the SIGA Resolution; provided, however, that, in the event that the SIGA Resolution occurs prior to the first anniversary of the completion of the merger, the SIGA Resolution will be deemed to have occurred on the first anniversary of the closing of the merger.

**Q: What risks should I consider in deciding whether to vote in favor of the proposals?**

A: You should carefully review the section of this proxy statement/prospectus/consent solicitation entitled "RISK FACTORS," which sets forth certain risks and uncertainties related to the merger, risks and uncertainties to which the combined company's business will be subject, and risks and uncertainties to which each of PharmAthene and Theraclone, as an independent company, is subject.

**Q: Who can help answer my questions?**

A: If you are a PharmAthene stockholder and would like additional copies, without charge, of this proxy statement/prospectus/consent solicitation or if you have questions about the merger, including the procedures for voting your shares, please direct your request to: PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary, or call PharmAthene at: (410) 269-2600.

If you are a Theraclone stockholder and would like additional copies, without charge, of this proxy statement/prospectus/consent solicitation or if you have questions about the merger, including the procedures for signing the stockholder action by written consent, you should contact: Theraclone Sciences, Inc., Seattle Life Sciences Building, 1124 Columbia Street, Suite 300, Seattle, WA 98104, c/o Chief Financial Officer, or call Theraclone at (206) 805-1600.

**You may also obtain additional information about PharmAthene in documents PharmAthene files with the Securities and Exchange Commission. See the section entitled "WHERE YOU CAN FIND ADDITIONAL INFORMATION."**

**Questions and Answers for PharmAthene Stockholders**

**Q: What do PharmAthene stockholders need to do now?**

A: You should read this proxy statement/prospectus/consent solicitation carefully, including its annexes, and consider how the merger affects you and then vote your shares either in person at the PharmAthene special meeting or by proxy.

If you are a PharmAthene stockholder on the record date, you may provide your proxy instructions in one of three different ways. First, you can mail your signed and completed proxy card in the enclosed return envelope. Second, you can provide your proxy instructions via the toll-free call center set up for this purpose by calling the toll-free number on your proxy card and following the instructions. Please have your proxy card available when you call. You will be prompted to enter the control number from your proxy card that will identify you as a stockholder of record. If you vote by telephone, you do not need to return your proxy card. Finally, if you are a registered stockholder of PharmAthene, you can provide your proxy instructions via the Internet at the web address shown on your proxy card by following the on-screen instructions. Please have your proxy card available when you access the web page. You will be prompted to enter the control number from your proxy card that will identify you as a stockholder of record. If you vote over the Internet, you do not need to return your proxy card. Please provide your proxy instructions as soon as possible so that your shares can be voted at the PharmAthene special meeting. PharmAthene stockholders may also attend the PharmAthene special meeting in person. **PharmAthene urges you to vote by proxy to ensure your vote is counted.** You may still attend the PharmAthene special meeting and vote in person even if you have already voted by proxy.

**Q: If my shares are held in "street name" by my broker, will my broker vote my PharmAthene shares for me?**

A: Unless your broker has discretionary authority to vote on the matters, your broker will not be able to vote your shares of PharmAthene common stock without instruction from you. Brokers are not expected to have discretionary authority to vote for any of the PharmAthene Proposals. If you do not provide voting instructions to your broker or other nominee with respect to these proposals, your broker, must deliver a proxy card to PharmAthene expressly indicating that it is not voting your shares, which is referred to as a "broker non-vote." Broker non-votes will not count for purposes of determining the number of votes cast. To make sure your vote is counted, you should instruct your broker as to how to vote your shares, following the instructions contained in the voting instructions card that your broker provides to you. A broker non-vote will be counted as a vote "AGAINST" the proposal to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue (which is a condition to the merger), but will have no effect on any other proposal.

**Q: As a PharmAthene stockholder, how does PharmAthene's Board of Directors recommend that I vote?**

A: After careful consideration, PharmAthene's Board of Directors unanimously recommends that PharmAthene stockholders vote:

- "**FOR**" PharmAthene Proposal No. 1 to approve the issuance of PharmAthene common stock, in the merger as contemplated by the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation,
- "**FOR**" PharmAthene Proposal No. 2 to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue;
- "**FOR**" each of the nine director nominees in PharmAthene Proposal No. 3 to serve as directors until PharmAthene's next annual meeting of stockholders or until their respective successors are elected and qualified;
- "**FOR**" PharmAthene Proposal No. 4 to approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and
- "**FOR**" PharmAthene Proposal No. 5 to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

**Q: What happens if I do not return a PharmAthene proxy card or otherwise provide proxy instructions?**

A: If you are a PharmAthene stockholder, the failure to return your proxy card or otherwise provide proxy instructions will have the same effect as voting against Proposal No. 2. An abstention has the same effect as a vote against the proposal. The approval of each of Proposal Nos. 1, 2, 3 and 4 is required to complete the merger.

**Q: May I vote in person?**

A: If your shares of PharmAthene common stock are registered directly in your name with PharmAthene's transfer agent, you are considered, with respect to those shares, the stockholder of record, and the proxy materials and proxy card are being sent directly to you if you are a stockholder of record as of the record date. If you are a PharmAthene stockholder of record as of October 4, 2013, you may attend the PharmAthene special meeting to be held on December 3, 2013 and vote your shares in person, rather than signing and returning your proxy card or otherwise providing proxy instructions. However, PharmAthene urges you to return your proxy card in any event, just in case your plans to attend the special meeting should change.

If your shares of PharmAthene common stock are held in a brokerage account or by another nominee, you are considered the beneficial owner of shares held in "street name," and the proxy materials are being forwarded to you together with a voting instruction card. As the beneficial owner, you are also invited to attend the PharmAthene special meeting. Since a beneficial owner is not the stockholder of record, however, you may not vote these shares in person at the special meeting unless you obtain a "legal proxy" from the broker, trustee or nominee that holds your shares, giving you the right to vote the shares at the special meeting.

**Q: May I change my vote after I have provided proxy instructions?**

A: Yes (except for those stockholders who have executed a voting agreement and irrevocable proxy). If you have not voted through your broker, there are three ways for you to revoke your proxy and change your vote. First, you may send a written notice to PharmAthene's Corporate Secretary stating that you would like to revoke your proxy. Second, you may complete and submit a new proxy card, but it must bear a later date than the original proxy. Third, you may attend and vote in person at the special meeting of PharmAthene stockholders. Your attendance alone will not revoke your proxy. If you have instructed a broker to vote your

shares, you must follow the directions you receive from your broker to change your vote. Your last vote will be the vote that is counted. If you have executed a voting agreement and irrevocable proxy, you may not revoke your proxy instructions.

**Q: Are PharmAthene stockholders entitled to appraisal rights?**

A: PharmAthene stockholders do not have any appraisal rights in connection with the merger.

**Questions and Answers for Theraclone Stockholders**

**Q: What do Theraclone stockholders need to do now?**

A: You should read this proxy statement/prospectus/consent solicitation carefully, including its annexes, and consider how the merger affects you. Theraclone stockholders are being asked to sign and return the written consent. Theraclone is not asking Theraclone stockholders for a proxy and Theraclone stockholders are not requested to send Theraclone a proxy. If you hold shares of Theraclone common stock or preferred stock as of the record date and you wish to give your written consent, you must complete the enclosed written consent, date and sign it, and promptly return it to Theraclone. Once you have completed, dated and signed the written consent, you may deliver it to Theraclone by faxing it to Theraclone's legal counsel, Fenwick & West LLP, Attention: Ellen Welichko, at (206) 389-4511, by emailing a .pdf copy of your written consent to ewelichko@fenwick.com, or by mailing your written consent to Fenwick & West LLP at 1191 Second Avenue, 10th Floor, Seattle, Washington 98101, Attention: Ellen Welichko.

**Q: What am I being asked to approve?**

A: You are being asked to approve (i) the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby and (ii) the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

**Q: What options do I have with respect to the Theraclone proposals?**

A: With respect to the shares of Theraclone common stock or preferred stock that you hold, you may execute a written consent to approve the merger and the terms of the Merger Agreement proposal and the Theraclone preferred stock conversion proposal (which is equivalent to a vote for the proposals) or to disapprove such proposals (which is equivalent to a vote against the proposals). If you fail to execute and return your written consent, it has the same effect as voting against the proposals.

**Q: As a Theraclone stockholder, how does Theraclone's Board of Directors recommend that I vote?**

A: After careful consideration, Theraclone's Board of Directors unanimously recommends that Theraclone's stockholders vote to approve the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby and to approve the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

**Q: Who is entitled to give a written consent?**

A: Theraclone's Board of Directors has set October 22, 2013 as the record date for determining holders of Theraclone common stock or preferred stock entitled to execute and deliver written consent with respect to this solicitation. Holders of Theraclone common stock or preferred stock on the record date will be entitled to give a consent using the written consent furnished with this proxy statement/prospectus/consent solicitation. If you are a Theraclone stockholder on the record date, you will be able to give or withhold consent, or abstain, on each proposal on which you are entitled to vote, using the written consent furnished with this proxy statement/prospectus/consent solicitation.

**Q: Who is soliciting my written consent?**

A: Theraclone's Board of Directors is providing these consent solicitation materials to you. These materials constitute a prospectus with respect to the PharmAthene common stock issuable to Theraclone's stockholders in the merger.

**Q: How can I return my Theraclone written consent?**

A: If you hold shares of Theraclone common stock or preferred stock as of the record date and you wish to submit your consent, you must fill out the enclosed written consent, date and sign it, and promptly return it to Theraclone. Once you have completed, dated and signed your written consent, deliver it to Theraclone by faxing it to Theraclone's legal counsel, Fenwick & West LLP, Attention: Ellen Welichko, at (206) 389-4511, by emailing a .pdf copy of your written consent to ewelichko@fenwick.com, or by mailing your written consent to Fenwick & West LLP at 1191 Second Avenue, 10th Floor, Seattle, Washington 98101, Attention: Ellen Welichko.

Theraclone will not be holding a stockholders' meeting to consider these proposals, and therefore you will be unable to vote by attending a stockholders' meeting.

**Q: What happens if I do not return my Theraclone written consent?**

A: If you are a record holder of shares of Theraclone common stock or preferred stock and you do not return your written consent, that will have the same effect as a vote against the proposals.

**Q: Will my rights as a PharmAthene stockholder be different from my rights as a Theraclone stockholder?**

A: Yes. Upon completion of the merger, each stockholder of Theraclone, will become a stockholder of PharmAthene. There are important differences between the rights of stockholders of PharmAthene and stockholders of Theraclone. Please carefully review the description of these differences in the section of this proxy statement/prospectus/consent solicitation entitled "COMPARISON OF RIGHTS OF STOCKHOLDERS."

**Q: Should I send in my stock certificates now?**

A: No. If you are a Theraclone stockholder, after the merger is consummated, you will receive written instructions from the exchange agent for exchanging your certificates representing shares of Theraclone capital stock for certificates representing shares of PharmAthene common stock.

**Q: Are Theraclone stockholders entitled to appraisal rights?**

A: Under Delaware law, holders of Theraclone common stock or preferred stock are entitled to appraisal rights in connection with the merger. If you do not wish to accept shares of PharmAthene common stock in the merger and you do not approve the merger in the Theraclone stockholder action by written consent, you have the right under Delaware law to seek from Theraclone the "fair value" of your shares in lieu of the PharmAthene common stock you would receive if the merger is completed. Theraclone refers you to the information under the heading "THE MERGER — Appraisal Rights" and to the applicable Delaware statute attached as Annex G to this proxy statement/prospectus/consent solicitation for information on how to exercise your appraisal rights. Failure to follow all of the steps required under the Delaware law will result in the loss of your appraisal rights.

**Q: What will Theraclone stockholders receive in the merger?**

A: PharmAthene has agreed to issue, and Theraclone stockholders will have the right to receive, for each share of Theraclone common stock they hold, that number of shares of PharmAthene common stock, as determined pursuant to the exchange ratio described in the Merger Agreement and in the section entitled "THE MERGER AGREEMENT — Merger Consideration." If the merger is consummated, each share of Theraclone common stock and Theraclone preferred stock will convert into the right to receive that number of shares of PharmAthene common stock equal to the exchange ratio. The exchange ratio is a formula set forth in the Merger Agreement and described in this proxy statement/prospectus/consent solicitation under the heading "THE MERGER AGREEMENT — Merger Consolidation." Based on PharmAthene's and Theraclone's outstanding securities as of October 4, 2013, the exchange ratio would have been 1.116. Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of

each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis.

**Q: Is any portion of the merger consideration being set aside as an escrow?**

A: Yes. Upon the completion of the merger, five percent of the merger consideration issuable to the stockholders of Theraclone will be held in escrow as security for indemnification claims under the Merger Agreement. The shares of PharmAthene common stock will be held in the escrow fund until the date that is nine months from the date of completion of the merger, subject to any unresolved indemnification claims.

**Q: How will the merger affect stock options and warrants for Theraclone capital stock?**

A: PharmAthene will assume options and warrants to purchase shares of Theraclone common stock and Theraclone preferred stock, which will become exercisable for shares of PharmAthene common stock with the same terms, exercisability, vesting schedule and other provisions, but with the number of shares and exercise price being appropriately adjusted to reflect the exchange ratio between PharmAthene common stock and Theraclone common stock stock determined in accordance with the Merger Agreement and described above.

**Q: What if I am a record holder and I don’t indicate a decision with respect to the proposals?**

A: If you are a record holder on the record date of shares of Theraclone common stock or Theraclone preferred stock and you return a signed written consent without indicating your decision on a proposal, you will have given your consent to approve (i) the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby and (ii) the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

**Q: What is the deadline for returning my written consent?**

A: Theraclone has set December 3, 2013 as the targeted final date for receipt of written consents. Theraclone reserves the right to extend the final date for receipt of written consents beyond December 3, 2013 in the event that consents approving the merger and adopting and approving the Merger Agreement and the transactions contemplated thereby and consents approving the conversion of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis have not been obtained by that date from holders of a sufficient number of shares of Theraclone common stock and Theraclone preferred stock to satisfy the conditions to the merger. Any such extension may be made without notice to stockholders. Once all conditions to the merger have been satisfied or waived, the consent solicitation will conclude.

**Q: Can I change or revoke my written consent?**

A: Yes, if you are a record holder on the record date of shares of Theraclone common stock or preferred stock, you may change or revoke your consent to a proposal at any time before the consents of a sufficient number of shares to approve and adopt such proposal have been filed with the corporate secretary of Theraclone. If you wish to change or revoke your consent before that time, you may do so by sending in a new written consent with a later date or delivering a notice of revocation to the corporate secretary of Theraclone.

## SUMMARY

### The Companies

#### PharmAthene, Inc.

PharmAthene is a leading biodefense company engaged in the development and commercialization of next generation medical countermeasures against biological and chemical threats. PharmAthene's current biodefense portfolio includes the following product candidates:

- SparVax™, a next generation recombinant protective antigen, or rPA, anthrax vaccine;
- rBChE (recombinant butyrylcholinesterase) bioscavenger, a medical countermeasure for nerve agent poisoning by organophosphorous compounds, including nerve gases and pesticides; and
- Valortim®, a fully human monoclonal antibody for the prevention and treatment of anthrax infection.

In addition, in May 2013, the Delaware Supreme Court affirmed a September 2011 ruling of the Delaware Court of Chancery that SIGA had breached certain contractual obligations to PharmAthene. The matter is on remand to the Delaware Court of Chancery to determine a remedy in light of the Delaware Supreme Court's decision. Previously the Delaware Chancery Court had awarded PharmAthene the right to receive 50% of all net profits (as defined in the court's final judgment) related to the sale of SIGA's Arestvyr™ (formerly known as ST-246®) and related products for 10 years following initial commercial sale of the drug once SIGA earns $40.0 million in net profits from the sales of Arestvyr™ and related products and a portion of PharmAthene's attorney's fees and expert witness and other costs. While PharmAthene believes there may be significant revenue potential under a potential damages award, there can be no assurance that the Delaware Chancery Court will re-instate its prior remedy or order another remedy for PharmAthene, that SIGA will not appeal any subsequent decision by the Delaware Chancery Court, or that SIGA will not be successful in any subsequent appeal. Currently, because the Delaware Supreme Court remanded the issue of a remedy back to the Delaware Chancery Court, PharmAthene no longer has a financial interest in Arestvyr™ and may never receive any proceeds from the product.

PharmAthene's goal is to become one of the leading companies specializing in the development and commercialization of best-in-class prophylactic and therapeutic drugs for defense against biological and chemical threats and emerging infectious diseases worldwide.

PharmAthene is headquartered in Annapolis, Maryland and was incorporated in Delaware in April 2005. PharmAthene's principal offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is (410) 269-2600. PharmAthene's principal website is *www.pharmathene.com*. The information contained on or connected to PharmAthene's website is expressly not incorporated by reference into this proxy statement/prospectus/consent solicitation. For additional information about PharmAthene, see the sections entitled "PHARMATHENE'S BUSINESS" and "PHARMATHENE'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" and PharmAthene's financial statements included elsewhere in this proxy statement/prospectus/consent solicitation.

#### Theraclone Sciences, Inc.

Theraclone is a biopharmaceutical company focused on the discovery and development of novel, monoclonal antibody therapeutics for diseases that are devastating for patients and their families and which are a significant threat to human health. Theraclone leverages its proprietary antibody discovery technology, I-STAR (In-Situ Therapeutic Antibody Rescue), to identify rare human antibodies that may be developed into antibody product candidates that are potentially safer and more effective than current therapies. Theraclone has a portfolio of innovative antibodies in clinical and preclinical development targeting serious medical conditions with a significant unmet medical need and a primary focus on infectious disease and cancer, which include:

- TCN-032, a recombinant fully human monoclonal antibody for the treatment of patients hospitalized with serious influenza; and
- TCN-202, a recombinant fully human monoclonal antibody for the treatment and prevention of cytomegalovirus, or CMV infections.

Theraclone is also working to identify additional fully human antibodies to expand its discovery pipeline of potential product candidates targeting infectious disease and oncology indications.

Theraclone's strategy is to advance clinical development of its lead product candidates, TCN-032 and TCN-202; utilize the I-STAR technology and its antibody discovery capabilities to identify new product candidates; form strategic alliances to help fund research and development operations and accelerate the development of its product candidates; and pursue funding through partnerships with the U.S. government.

Theraclone is headquartered in Seattle, Washington and was incorporated in Delaware in March 2004. Theraclone's principal offices are located at Seattle Life Sciences Building, 1124 Columbia Street, Suite 300, Seattle, WA 98104, and its telephone number is (206) 805-1600. Theraclone's principal website is *www.theraclone-sciences.com*. The information contained on or connected to Theraclone's website is expressly not incorporated by reference into this proxy statement/prospectus/consent solicitation. For additional information about Theraclone, see the sections entitled "THERACLONE'S BUSINESS" and "THERACLONE'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" and Theraclone's financial statements included elsewhere in this proxy statement/prospectus/consent solicitation.

**Taurus Merger Sub, Inc.**

Taurus Merger Sub, Inc. is a wholly owned subsidiary of PharmAthene that was incorporated in Delaware on July 31, 2013. Merger Sub does not engage in operations and exists solely to facilitate the merger. If the merger is completed, Merger Sub will cease to exist following its merger with and into Theraclone.

Merger Sub's principal offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is (410) 269-2600.

**The Merger**

If the merger is completed, Merger Sub will merge with and into Theraclone, with Theraclone surviving the merger as a wholly owned subsidiary of PharmAthene. After the merger, PharmAthene and its wholly owned subsidiary, Theraclone, will operate as a combined company.

All outstanding shares of Theraclone preferred stock will be converted into shares of Theraclone common stock on a one-for-one basis immediately prior to the Effective Time, subject to the approval of such conversion by Theraclone's preferred stockholders. At the Effective Time, all outstanding shares of Theraclone common stock will be converted into shares of PharmAthene common stock based on the exchange ratio. Upon completion of the merger, PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis.

A copy of the Merger Agreement is attached as Annex A to this proxy statement/prospectus/consent solicitation and is incorporated by reference herein. You are encouraged to read the Merger Agreement in its entirety because it is the legal document that governs the merger. For a more complete discussion of the merger, see the sections entitled "THE MERGER" and "THE MERGER AGREEMENT."

**Reasons for the Merger**

The combined company will be a fully integrated, commercially-focused biologics company. PharmAthene and Theraclone both believe that the combination of the two companies will be able to create more value than either company could achieve individually.

Each of the boards of directors of PharmAthene and Theraclone also considered other reasons for the merger, as described herein. For example, the PharmAthene Board of Directors considered, among other reasons:

- historical and current information concerning PharmAthene's business, financial performance, financial condition, operations, management, and competitive position, the prospects of PharmAthene and its products, the nature of the biodefense industry generally, including financial projections of PharmAthene under various scenarios, and its short- and long-term strategic objectives and the related risks and the belief that the combination of PharmAthene's and Theraclone's businesses would create more value for PharmAthene stockholders in the long-term than PharmAthene could create as an independent, stand-alone company;
- the viability of strategic alternatives if the proposed merger with Theraclone does not occur, including, among other things, PharmAthene's financial prospects, the likelihood of other business combinations or other strategic transactions and access to the capital needed to continue successful operations, and the belief that the proposed merger with Theraclone would provide PharmAthene's stockholders with a greater potential opportunity to realize a return on their investment than any other alternative reasonably available to PharmAthene and its stockholders;
- historical and current information concerning Theraclone's business, financial performance, financial condition, operations and management and the results of a due diligence investigation of Theraclone conducted by PharmAthene's management and advisors; and
- the opportunity for PharmAthene's stockholders to participate in the potential future value of the combined company, including future potential value from Theraclone's technology and other assets.

In addition, the Theraclone Board of Directors considered, among other reasons, the following:

- the belief that the merger with PharmAthene would be a more time- and cost-effective means to access sufficient capital than other options considered, including an initial public offering or additional rounds of private equity financing;
- the belief that the range of options available to the combined company to access private and public equity markets will likely be greater as a public company than continuing as a privately held company;
- the belief that the combined company's diversified pipeline of product candidates, research capabilities, government contracting expertise, access to opportunities for non-dilutive funding and other synergies creates a superior company when compared to remaining as an independent private company; and
- the strategic alternatives of Theraclone to the merger, including, remaining an independent private company, attempting an initial public offering, entering into a business combination transaction with an alternative company and additional strategic partnerships.

For a more complete discussion of PharmAthene's and Theraclone's reasons for the merger, see the sections entitled "THE MERGER — PharmAthene Reasons for the Merger" and "THE MERGER — Theraclone Reasons for the Merger."

**Risks Related to the Merger**

Both PharmAthene and Theraclone are subject to various risks associated with their respective businesses and financial condition. In addition, the merger, as well as the possibility that the merger may not be completed, pose a number of risks to PharmAthene and Theraclone and their respective stockholders, including the following risks:

- the issuance of shares of PharmAthene common stock to the Theraclone stockholders in the merger will dilute substantially the voting power of current PharmAthene stockholders;
- there is no assurance when or even if the merger will be completed. Failure to obtain required approvals necessary to satisfy closing conditions may delay or prevent completion of the merger;

- because the lack of a public market for Theraclone's outstanding shares makes it difficult to evaluate the fairness of the merger, Theraclone stockholders may receive consideration in the merger that is greater than or less than the fair market value of the Theraclone shares;
- because the merger will be completed after the date of the PharmAthene special meeting of stockholders and the Theraclone written consent of stockholders, at the time of the special meeting or written consent, you will not know the exact number of shares of PharmAthene common stock that the Theraclone stockholders will receive upon completion of the merger;
- PharmAthene and Theraclone executive officers and directors may have interests in the merger that are different from, or in addition to, those of PharmAthene stockholders and Theraclone stockholders generally;
- the pendency of the merger could have an adverse effect on the trading price of PharmAthene common stock and the business, financial condition, results of operations or business prospects for PharmAthene, Theraclone and the combined company;
- during the pendency of the merger, PharmAthene and Theraclone may be unable to enter into a business combination with another party because of restrictions in the Merger Agreement;
- the merger may be completed even though material adverse changes may result during the pendency of the merger or from industry-wide changes or other causes;
- the rights of Theraclone stockholders who become PharmAthene stockholders in the merger will be governed by PharmAthene's Certificate of Incorporation and Bylaws;
- if the merger does not qualify as a reorganization under Section 368(a) of the Code or is otherwise taxable to U.S. holders of Theraclone common stock, then such holders may be required to pay substantial U.S. federal income taxes;
- PharmAthene and Theraclone have incurred and will continue to incur significant transaction costs in connection with the merger; and
- the anticipated benefits of the merger may not be realized fully or at all or may take longer to realize than expected.

In addition, PharmAthene, Theraclone and the combined company are subject to various risks associated with their respective businesses. These risks are discussed in greater detail in the section entitled "RISK FACTORS." PharmAthene and Theraclone both encourage you to read and consider all of these risks carefully.

**Opinion of PharmAthene's Financial Advisor**

In connection with the merger, the PharmAthene Board of Directors received a written opinion, dated July 31, 2013, of PharmAthene's financial advisor, Leerink Swann LLC (also referred to as PharmAthene's financial advisor or Leerink) as to the fairness, from a financial point of view and as of the date of the opinion, to PharmAthene of the exchange ratio used in the merger. The full text of Leerink's written opinion, dated July 31, 2013, which describes the assumptions made, procedures followed, matters considered and limitations on the review undertaken, is attached to this proxy statement/prospectus/consent solicitation as Annex FA. Leerink provided its opinion for the benefit and use of PharmAthene's Board of Directors in its consideration of the transaction, and its opinion is directed only to the fairness, from a financial point of view, to the holders of PharmAthene common stock (other than Theraclone and its affiliates) of the exchange ratio, as of the date of the opinion. The Leerink opinion does not constitute an opinion as to the merits of the merger or the prices at which shares of PharmAthene common stock will trade at any time, and is not a recommendation to any holder of PharmAthene common stock as to how such holder should vote with respect to the merger, or any other matter. For a more complete discussion of Leerink's opinion, see the section entitled "THE MERGER — Opinion of Leerink Swann" and see the written opinion of Leerink attached as Annex FA.

**Overview of the Merger Agreement**

Pursuant to the Merger Agreement, Merger Sub will merge with and into Theraclone, with Theraclone as the surviving wholly owned subsidiary of the combined company.

Pursuant to the terms of the Merger Agreement, at the Effective Time, each outstanding share of capital stock of Theraclone will be converted into the right to receive a number of shares of PharmAthene common stock equal to the quotient obtained by dividing the fully diluted equity (as defined below) of PharmAthene by the fully diluted equity of Theraclone, or the Exchange Ratio, less a pro rata share of PharmAthene common stock representing five percent of the merger consideration issuable to the stockholders of Theraclone, or the Escrow Shares. The Merger Agreement defines "fully diluted equity" to mean, with respect to PharmAthene, the total number of shares outstanding of PharmAthene common stock assuming full conversion or exercise of all then outstanding options and warrants, which, in each case, have an exercise price less than or equal to $2.50 per share, and convertible securities. With respect to Theraclone, "fully diluted equity" means the total number of shares outstanding of Theraclone common stock, assuming full conversion or exercise of all then-outstanding options and warrants and all convertible securities. Based on PharmAthene's and Theraclone's outstanding securities as of October 4, 2013, the Exchange Ratio would have been 1.116. Holders of Theraclone common stock will receive cash in lieu of fractional shares. In addition, all outstanding Theraclone options, as well as Theraclone's 2004 Option Plan, will be assumed by PharmAthene. Each option or warrant to purchase one share of Theraclone common stock or preferred stock will be converted into an option or warrant, as the case may be, to purchase a number of shares of PharmAthene common stock representing the number of Theraclone shares of common stock or preferred stock for which the exchanged option or warrant was exercisable multiplied by the Exchange Ratio. The exercise price would be proportionately adjusted.

Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders could own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis. The Escrow Shares described above, which will serve to secure the Theraclone stockholders' indemnification obligations under the Merger Agreement, will be deposited with Citibank, N.A., as escrow agent under a separate escrow agreement to be entered into prior to the completion of the merger. The escrow period will expire nine months from the date of completion of the merger.

Completion of the merger is subject to a number of conditions, including, but not limited to: (i) approval of the issuance of shares of PharmAthene common stock in connection with the merger, approval of an increase in the authorized number of shares of common stock by PharmAthene's stockholders and the adoption and approval of the Merger Agreement and the transactions contemplated thereby by Theraclone's stockholders; (ii) the effectiveness of the registration statement of which this proxy statement/prospectus/ consent solicitation forms a part; (iii) approval for listing on the NYSE MKT LLC, or NYSE MKT, of the shares of PharmAthene common stock to be issued in connection with the merger; (iv) execution of the Board Composition Agreement; (v) exercise of appraisal rights by no more than 5% of PharmAthene's stockholders (PharmAthene stockholders do not have appraisal rights in this merger); (vi) the amendment of PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of the Board of Directors of the combined company to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; (vii) the delivery to Theraclone of all $8,000,000 of capital committed to Theraclone pursuant to its Series B-1 Preferred Stock and Warrant Purchase and Exchange Agreement; and (viii) other customary closing conditions.

Each of PharmAthene and Theraclone have made customary representations, warranties and covenants in the Merger Agreement, including among others, covenants that: (i) each party will conduct its business in the ordinary course consistent with past practice during the interim period between execution of the Merger Agreement and completion of the merger; (ii) each party will not engage in certain kinds of transactions or take certain actions

during such period (including, but not limited to, the issuance and sale of its securities and the incurrence of debt, with certain exceptions); (iii) Theraclone will solicit approval by its stockholders of the Merger Agreement and the transactions contemplated thereby and the Board of Directors of Theraclone will recommend that its stockholders adopt and approve the Merger Agreement, subject to certain exceptions; and (iv) PharmAthene will convene and hold a meeting of its stockholders for the purpose of considering the approval of the issuance of shares of PharmAthene common stock in connection with the merger, the election of the PharmAthene and Theraclone Board Designees, the authorization of additional shares of common stock, and the amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of the Board of Directors of the combined company to remove Clifford J. Stocks, the expected Chief Executive Officer of the combined company, the Board of Directors of PharmAthene will recommend that its stockholders adopt and approve such proposals, subject to certain exceptions. PharmAthene also has agreed not to solicit proposals relating to alternative business combination transactions or enter into discussions or an agreement concerning any proposals for alternative business combination transactions, subject to exceptions in the event of its receipt of a "superior proposal," as defined in the Merger Agreement. All representations and warranties of Theraclone (but not PharmAthene) included in the Merger Agreement will survive the completion of the merger and remain in full force and effect until nine months after the closing date.

The Merger Agreement contains termination rights in favor of each of PharmAthene and Theraclone in certain circumstances. If PharmAthene terminates the Merger Agreement pursuant to its superior proposal termination right, it is obligated to pay to Theraclone a break-up fee of $3,500,000. If the PharmAthene Board of Directors changes its voting recommendations to PharmAthene stockholders as a result of a Transaction Event (as defined below) and Theraclone terminates as a result of such change in recommendation, or if PharmAthene terminated the Merger Agreement as a result of a Transaction Event, then PharmAthene is obligated to pay Theraclone a break-up fee of $4,500,000. A Transaction Event is defined to occur if the Delaware Chancery Court renders a substantive decision on the merits in PharmAthene's civil case against SIGA and within 20 business days thereafter the PharmAthene Board of Directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the merger a merger of equals. In addition, either party may terminate the Merger Agreement if: (i) the merger has not been completed by January 31, 2014, or the Outside Termination Date, provided that, if the registration statement of which this proxy statement/prospectus/consent solicitation forms a part is not declared effective by October 4, 2013, then either party is generally entitled to extend the Outside Termination Date by 60 days; or (ii) the PharmAthene stockholders fail to approve the issuance of shares in the merger, the increase in authorized shares of common stock or the election of the PharmAthene or Theraclone board designees. If (i) the Merger Agreement is terminated because the merger has not been completed prior to the Outside Termination Date or the PharmAthene special meeting (including any postponements or adjournments thereof) shall have concluded and the PharmAthene stockholders fail to approve the issuance of shares in the merger, the increase in authorized shares of common stock or the election of the PharmAthene or Theraclone board designees; (ii) a takeover approval was announced prior to the PharmAthene stockholder meeting with respect to the merger; and (iii) within nine months after the date of the termination of the Merger Agreement, PharmAthene enters into an agreement or understanding with respect to any takeover proposal that is subsequently completed, then PharmAthene is obligated to pay to Theraclone a break-up fee of $3,500,000. In certain other circumstances, PharmAthene will be obligated to reimburse Theraclone for expenses incurred in connection with the merger, not to exceed $1,000,000.

The Merger Agreement contains certain indemnification provisions, which, among other things, provide that Theraclone stockholders are not obligated, absent fraud or willful misconduct, to indemnify PharmAthene or its affiliates unless and until the aggregate amount of indemnification claims brought against them by PharmAthene and its affiliates is at least $1,000,000 and, if triggered, the indemnity covers amounts in excess of the $1,000,000 threshold. In addition, no Theraclone stockholder has an obligation, absent fraud or willful misconduct of Theraclone, to indemnify PharmAthene or its affiliates for an amount in excess of such Theraclone stockholder's pro rata share of the Escrow Shares. The Merger Agreement appointed Steven Gillis, Ph.D. as the agent for and on behalf of the Theraclone stockholders with respect to the Merger Agreement and escrow agreement, as well as related matters.

**PharmAthene Voting Agreement**

Concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who beneficially own approximately 7.5% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of July 31, 2013, entered into a voting agreement with Theraclone, or the PharmAthene Voting Agreement, pursuant to which each stockholder agreed to vote its shares of PharmAthene common stock in furtherance of the transactions contemplated by the Merger Agreement and against any amendment of PharmAthene's Certificate of Incorporation or Bylaws or any other proposal or transaction, the effect of which amendment or other proposal is to delay, impair, prevent or nullify the merger or the transaction contemplated by the Merger Agreement.

The PharmAthene Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. For a more complete discussion of the PharmAthene Voting Agreement, see the section entitled "VOTING AND OTHER AGREEMENTS — Voting and Lock-Up Agreements." A copy of the PharmAthene Voting Agreement is attached as Annex B to this proxy statement/prospectus/consent solicitation.

**Theraclone Voting Agreement**

Concurrently and in connection with the execution of the Merger Agreement, certain of Theraclone's stockholders, who in the aggregate held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013, entered into a voting agreement with PharmAthene, or the Theraclone Voting Agreement, pursuant to which each such stockholder agreed to vote its shares of Theraclone capital stock: (i) in favor of the adoption of the Merger Agreement and any actions required in furtherance thereof; (ii) in favor of the conversion of all outstanding shares of Theraclone preferred stock into Theraclone common stock on a one-for-one basis (as of immediately prior to the Effective Time and contingent upon the merger occurring) pursuant to Theraclone's restated Certificate of Incorporation; (iii) against any other proposal or transaction involving Theraclone, the effect of which amendment or other proposal or transaction would be to delay, impair, prevent or nullify the merger or the transactions contemplated by the Merger Agreement; (iv) against any amendment of Theraclone's Certificate of Incorporation or Bylaws that changes in any manner the voting rights of any capital stock of Theraclone (other than the conversion of Theraclone preferred stock into Theraclone common stock); and (v) against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty of the merger Agreement.

The Theraclone Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. For a more complete discussion of the Theraclone Voting Agreement, see the section entitled "VOTING AND OTHER AGREEMENTS — Voting and Lock-Up Agreements." A copy of the Theraclone Voting Agreement is attached as Annex C to this proxy statement/ prospectus/consent solicitation.

**Stockholder Approval of the Merger**

As of October 4, 2013, all directors and executive officers, as well as a key employee, of PharmAthene, together with their affiliates, beneficially owned approximately 7.6% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of October 4, 2013. The amendment to PharmAthene's Certificate of Incorporation increasing the authorized number of shares of common stock requires the affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal. The approval of the issuance of shares of PharmAthene common stock in the merger, the approval of the proposal to amend the Bylaws of PharmAthene to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company, and the proposal to adjourn the meeting, if necessary, to solicit additional proxies, each requires the affirmative vote of the holders of a majority of the shares of PharmAthene common stock outstanding, entitled to vote on the proposal and present at the PharmAthene special meeting in person or by proxy. The election of nine persons to serve on the Board of Directors of PharmAthene requires the affirmative vote of holders of a plurality of PharmAthene common stock, entitled to vote on the proposal and present at the PharmAthene special meeting in person or by proxy. All PharmAthene officers and directors, and their affiliates as noted above, have entered into the PharmAthene Voting Agreement in connection with the merger. For a more

complete discussion of the PharmAthene Voting Agreement, see the section entitled "VOTING AND OTHER AGREEMENTS — Voting and Lock-Up Agreements."

As of October 4, 2013, all directors and executive officers of Theraclone, together with their affiliates, beneficially owned, in the aggregate, approximately 67% of the shares of Theraclone capital stock. Written consents are required from: (i) the holders of at least (a) a majority of the outstanding shares of Theraclone common stock and preferred stock, voting together as a single class on an as-converted-to-common stock basis and (b) a majority of the outstanding shares of the Theraclone preferred stock, voting together as a single class on an as-converted-to-common stock basis each outstanding on the applicable record date, for the merger, the Merger Agreement and the transactions contemplated thereby; and (ii) holders of at least a majority of the outstanding shares of Theraclone preferred stock for conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis immediately prior to the Effective Time. All Theraclone officers and directors, and their affiliates, have entered into the Theraclone Voting Agreement in connection with the merger. For a more complete discussion of the Theraclone Voting Agreement, see the section entitled "VOTING AND OTHER AGREEMENTS — Voting and Lock-Up Agreements."

**Directors and Officers of PharmAthene Following the Merger**

Following the merger, and pursuant to the Board Composition Agreement expected to be entered into upon the completion of the merger, the Board of Directors of the combined company will be comprised of nine members, including five current members of the PharmAthene Board of Directors, three current members of the Theraclone Board of Directors and Steven P. James, also designated by Theraclone. Such directors are expected to be:

| Name | Affiliation |
|---|---|
| Mitchel B. Sayare, Ph.D. | PharmAthene Designee |
| John M. Gill | PharmAthene Designee |
| Steven Gillis, Ph.D. | Theraclone Designee |
| Wende S. Hutton | Theraclone Designee |
| Steven P. James | Theraclone Designee |
| Brian A. Markison | PharmAthene Designee |
| Eric I. Richman | PharmAthene Designee |
| Derace L. Schaffer, M.D. | PharmAthene Designee |
| Clifford J. Stocks | Theraclone Designee |

Following the merger, the executive officers of the combined company will be as follows:

- Clifford J. Stocks — Chief Executive Officer
- Francesca Cook — Senior Vice President, Policy and Government Affairs
- Russ Hawkinson — Chief Financial Officer
- Jordan Karp — Senior Vice President, General Counsel
- Eleanor Ramos, M.D. — Chief Medical Officer
- Kristine Swiderek, Ph.D. — Chief Scientific Officer

For a more complete discussion of the management of the combined company after the merger, see the section entitled "MANAGEMENT OF THE COMBINED COMPANY." A copy of the form of Board Composition Agreement is attached as Annex D to this proxy statement/prospectus/consent solicitation.

**Interests of PharmAthene's Directors and Executive Officers in the Merger**

In considering the recommendation of the PharmAthene Board of Directors to PharmAthene stockholders to vote in favor of the issuance of shares of PharmAthene common stock in the merger, and the other matters to be acted upon by PharmAthene stockholders at the PharmAthene special meeting, PharmAthene stockholders should be aware that members of the PharmAthene Board of Directors and PharmAthene's executive officers have interests in the merger that may be different from, or in addition to, or conflict with, the interests of PharmAthene stockholders.

Interests of the PharmAthene directors and executive officers relate to the continuing service of Mitchel Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman, and Derace L. Schaffer, M.D., as directors of the combined company following completion of the merger and the payment of cash and equity compensation in consideration for such service, as described in more detail in the section entitled “Management of the Combined Company.”

On July 31, 2013, PharmAthene’s Board of Directors approved amendments to the employment agreements of PharmAthene’s Chief Executive Officer and Chief Financial Officer that will become effective immediately upon completion of the merger (and only if the merger is completed) and that will provide substantially the same benefits that Mr. Richman and Ms. Chang would have been entitled to receive under the severance plan adopted for all of PharmAthene’s executive officers in May 2012, or the PharmAthene Severance Plan, upon termination without cause or resignation for good reason within 12 months of a change of control of PharmAthene. Please see “THE MERGER — Executive Officer Employment Agreements and Severance and Change in Control Agreements — Potential Payments upon Termination or Change of Control — Severance Plan and Change in Control Agreements — Termination Without Cause/For Good Reason After a Change of Control” for a description of such benefits. In addition to such benefits, the amendment will provide for acceleration of vesting of all outstanding equity-based awards held by Mr. Richman and Ms. Chang, and extend the exercise period applicable to their outstanding stock options until the third anniversary following their departure from service with PharmAthene, and Linda Chang will also receive an additional lump sum payment for the costs associated with 18 months use of an automobile.

The following table sets forth the amount of potential payments and value of benefits that Mr. Richman and Ms. Chang would have received if their employment had been terminated in connection with the merger, assuming the merger had been completed on October 4, 2013.

| Name | Cash Payments[1] | Value of Benefits[2] | Value of Options[3] | Excise Tax Gross Up[4] | Total |
|---|---|---|---|---|---|
| Eric I. Richman | $ 1,710,701 | $ 54,000 | $ 194,000 | $ 714,452 | $ 2,673,153 |
| Linda L. Chang | $ 620,100 | $ 19,000 | $ 114,000 | $ 0 | $ 753,100 |

(1) Represents the sum of: (i) an amount equal to 24 months’ worth of base salary for Mr. Richman and 18 months’ worth of base salary for Ms. Chang; (ii) an amount equal to 200% of the target annual cash bonus for Mr. Richman and 150% of the target annual cash bonus for Ms. Chang; and (iii) for Ms. Chang, this amount includes a lump sum payment of $18,000 equal to the estimated costs associated with 18 months use of an automobile. According to their respective employment agreements, Mr. Richman’s target bonus is up to 60% of base salary and the target bonus for Ms. Chang is up to 30% of base salary. Included $250,903 equal to the pro rata bonus due to Mr. Richman for the current year.

(2) Estimated value of PharmAthene’s subsidy for group health insurance for 24 months and 18 months, respectively.

(3) The value of the automatic acceleration of the vesting of unvested stock options held by an executive is based on the difference between: (i) the market price of the shares of PharmAthene common stock underlying the unvested stock options held by such officer as of October 4, 2013, based on the average closing sale price of common stock from August 2, 2013 to August 8, 2013, representing the five business days following the announcement of the merger (i.e., $1.88); and (ii) the exercise price of the options, which range from $1.13 to $4.20 per share. Also included in this value is the value of unvested restricted shares. If the average closing price per share of PharmAthene’s common stock was below the exercise price of unvested stock option, there was no intrinsic value associated with that unvested award. Under Mr. Richman’s employment agreement, if he is terminated without cause or if he resigns for good reason within twelve months of a change of control and no new employment agreement has been entered into within 90 days of such change of control, all equity-based awards held by Mr. Richman would be deemed fully vested as of the date of termination. The acceleration provisions for Ms. Chang are set forth in her stock option grant agreement.

(4) To the extent that Mr. Richman is subject to certain excise taxes under Section 4999 of the Code, he is eligible for reimbursement of those excise taxes and any additional federal, state, local and excise tax resulting from such gross-up payments. The amount reported in the table is calculated assuming an excise tax rate of 20%. PharmAthene has assumed, for purposes of preparing this table, that $912,374 of Mr. Richman’s severance constitutes “reasonable compensation” for the restrictive covenants to which the

executive is bound following the termination of employment. Accordingly, PharmAthene has not treated that portion of his severance as part of the amounts falling under Section 4999 of the Internal Revenue Code. Such assumption may change at the time of an actual change of control. Ms. Chang is subject to a "best executive choice" provision under which the executive can elect either to receive the amount other severance benefits, subject to the excise tax, if any, payable on excess parachute payments, or to reduce her severance payment to the extent necessary to avoid triggering excise tax on such payment.

In addition, on July 31, 2013, the PharmAthene Board of Directors agreed to terminate the Severance Plan effective upon completion of the merger. The employment agreements of all other PharmAthene executive officers will be amended to increase the duration of the period during which the executives would receive severance benefits following a termination without cause or for good reason from six months to twelve months. Finally, the PharmAthene Board of Directors determined that all current members of the Board of Directors who would resign at the completion of the merger will receive director fees at current levels for one full quarter beyond the date of termination. The amendments to the employment agreements and the change in the fees payable to resigning directors will not become effective if the merger does not close.

The PharmAthene Board of Directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the issuance of shares of PharmAthene common stock in the merger, and to recommend that PharmAthene stockholders approve the issuance of shares of PharmAthene common stock in the merger and related matters. Other than undertaking to provide full disclosure of these potential conflicts of interest, the PharmAthene Board of Directors did not take any other steps to alleviate such potential conflicts of interest since it did not consider such potential conflicts of interest to be material in connection with its decision to approve the Merger Agreement and the transactions contemplated thereby, including the issuance of shares of PharmAthene common stock.

For a more complete discussion of the interests of the directors and executive officers of PharmAthene in the merger, see the section entitled "THE MERGER — Interests of PharmAthene's Directors and Executive Officers in the Merger."

**Interests of Theraclone's Directors and Executive Officers in the Merger**

In considering the recommendation of the Theraclone Board of Directors to Theraclone stockholders to approve the merger and to adopt and approve the Merger Agreement, and the other matters to be acted upon by Theraclone stockholders in the Theraclone written consent, Theraclone stockholders should be aware that members of the Theraclone Board of Directors and Theraclone's executive officers have interests in the merger that may be different from, in addition to, or may conflict with the interests of Theraclone stockholders.

These interests include the beneficial ownership interests of Theraclone directors and executive officers in shares of Theraclone capital stock and securities to be converted to PharmAthene common stock and rights to purchase PharmAthene common stock in the merger, the assumption of all stock options held by the Theraclone executive officers and board members upon the completion of the merger, the agreement that Steven Gillis, Ph.D., Wende S. Hutton and Clifford J. Stocks, each a Theraclone director, will continue to serve on the Board of Directors of the combined company following the consummation of the merger, the agreement that Mr. Stocks, Russ Hawkinson, Eleanor Ramos, M.D., and Kristine Swiderek, Ph.D., each a Theraclone executive officer, will continue to serve as executive officers of the combined company following the consummation of the merger and the continued indemnification of former Theraclone executive officers and board members.

As of October 4, 2013, directors and executive officers of Theraclone, together with their respective affiliates, owned and were entitled to vote, in the aggregate, 24,552,617 shares of Theraclone capital stock, or approximately 62% of the shares of Theraclone capital stock outstanding on that date. For a more complete discussion of the interests of the directors and executive officers of Theraclone in the merger, see the section entitled "THE MERGER — Interests of Theraclone's Directors and Officers in the Merger."

**Assumption of Theraclone Stock Options and Warrants and Theraclone 2004 Option Plan**

All outstanding Theraclone options, as well as Theraclone's 2004 Option Plan, will be assumed by PharmAthene following the merger. Each option or warrant to purchase shares of Theraclone common stock or preferred stock will be converted into an option or warrant, as the case may be, to purchase a number of

shares of PharmAthene common stock representing the number of Theraclone shares of common stock or preferred stock for which the exchanged option or warrant was exercisable multiplied by the Exchange Ratio. The exercise price will be proportionately adjusted. PharmAthene will assume Theraclone's 2004 Option Plan, and the terms and conditions of all Theraclone options and warrants exchanged in the merger for PharmAthene options and warrants will be unchanged.

For a more complete discussion of the treatment of Theraclone options and warrants, see the section entitled "THE MERGER AGREEMENT — Merger Consideration."

**Material U.S. Federal Income Tax Consequences of the Merger**

The merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code and Treasury Regulations promulgated thereunder. As a result of the "reorganization," Theraclone stockholders generally will not recognize gain or loss for U.S. federal income tax purposes upon the exchange of their shares of Theraclone common stock for shares of PharmAthene common stock in connection with the merger. However, if a Theraclone stockholder receives cash in lieu of a fractional share of PharmAthene common stock, then such stockholder generally will recognize gain or loss in an amount equal to the difference between such stockholder's adjusted tax basis in the fractional share and the amount of cash received. Moreover, a Theraclone stockholder who perfects appraisal rights and receives cash in exchange for such stockholder's shares of Theraclone capital stock will recognize gain or loss measured by the difference between the amount of cash received and such stockholder's adjusted tax basis in those shares. PharmAthene stockholders generally will not recognize gain or loss for U.S. federal income tax purposes as a result of the merger.

**Tax matters are very complicated, and the tax consequences of the merger to a particular PharmAthene or Theraclone stockholder will depend in part on such stockholder's circumstances. Accordingly, PharmAthene and Theraclone urge you to consult your own tax advisor for a full understanding of the tax consequences of the merger to you, including the applicability and effect of federal, state, local and foreign income and other tax laws. For a more complete discussion of the material U.S. federal income tax consequences of the merger, see the section entitled "MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER."**

**Regulatory Approvals**

Neither PharmAthene nor Theraclone is required to make any filings or to obtain any approvals or clearances from any antitrust regulatory authorities in the United States or other countries to consummate the merger. In the United States, PharmAthene must comply with applicable federal and state securities laws and rules and regulations of the NYSE MKT in connection with the issuance and listing of shares of PharmAthene common stock in the merger, including the filing with the Securities and Exchange Commission, or SEC, and effectiveness of the registration statement of which this proxy statement/prospectus/consent solicitation is a part. For a more complete discussion of the regulatory approvals required in connection with the merger, see the section entitled "THE MERGER — Regulatory Approvals."

**Anticipated Accounting Treatment**

Under U.S. Generally Accepted Accounting Principles, or U.S. GAAP, Accounting Standards Codification 805 "Business Combinations," the merger is expected to be accounted for using acquisition accounting, pursuant to which PharmAthene is considered the acquiring entity for accounting purposes. As such, PharmAthene expects to allocate the total purchase consideration to Theraclone's tangible and identifiable intangible assets acquired and liabilities assumed based on their fair values at the date of the completion of the merger. The allocation reflected in the unaudited pro forma condensed combined financial information included in this prospectus is preliminary and subject to change.

For a more complete discussion of the anticipated accounting treatment of the merger, see the sections entitled "THE MERGER — Anticipated Accounting Treatment" and "SELECTED HISTORICAL AND UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL DATA."

**Appraisal Rights**

If the merger is completed, Theraclone stockholders are entitled to appraisal rights under Section 262 of the Delaware General Corporation Law, or the DGCL. PharmAthene stockholders are not entitled to appraisal rights in connection with the merger. For a more complete discussion of the appraisal rights, see the provisions of Section 262 of the DGCL, referred to as Section 262, and attached to this proxy statement/prospectus/consent solicitation as Annex G, and the section entitled "THE MERGER — Appraisal Rights."

**Comparison of Stockholder Rights**

Both PharmAthene and Theraclone are incorporated under the laws of the State of Delaware, accordingly the rights of the stockholders of each company are currently, and will continue to be, governed by the DGCL and their respective Certificates of Incorporation and Bylaws. If the merger is completed, Theraclone stockholders will become stockholders of PharmAthene, and their rights will be governed by the DGCL, the Certificate of Incorporation and the Bylaws of PharmAthene. The rights of PharmAthene contained in the Certificate of Incorporation and Bylaws of PharmAthene differ from the rights of Theraclone stockholders under the Certificate of Incorporation and Bylaws of Theraclone, as more fully described under the section entitled "COMPARISON OF RIGHTS OF STOCKHOLDERS."

## SELECTED HISTORICAL AND UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL DATA

### Selected Historical Financial Data of PharmAthene

You should read the following selected consolidated financial data together with PharmAthene's consolidated financial statements and the related notes included elsewhere in this proxy statement/prospectus/consent solicitation and with the section entitled "PHARMATHENE'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS."

PharmAthene has derived the consolidated statement of operations data for the years ended December 31, 2010, 2011 and 2012 and the consolidated balance sheet data as of December 31, 2011 and 2012 from PharmAthene's audited consolidated financial statements, which are included elsewhere in this proxy statement/prospectus/consent solicitation. PharmAthene has derived the consolidated statements of operations data for the years ended December 31, 2008 and 2009 and the consolidated balance sheet data as of December 31, 2008, 2009 and 2010 from PharmAthene's audited consolidated financial statements, which are not included in this proxy statement/prospectus/consent solicitation. PharmAthene has derived the consolidated statement of operations data for the three and six months ended June 30, 2012 and 2013 and the consolidated balance sheet data as of June 30, 2012 and 2013 from PharmAthene's unaudited consolidated financial statements, which are included elsewhere in this proxy statement/prospectus/consent solicitation. PharmAthene's historical results for any prior period are not necessarily indicative of results to be expected in any future period.

| | Years Ended December 31, | | | | | Six Months Ended June 30, | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 | 2013 |
| Statements of operations data: | | | | | | | |
| Revenue | $ 34,179,363 | $ 27,549,978 | $ 20,993,605 | $ 24,266,274 | $25,175,887 | $12,466,060 | $10,770,538 |
| Operating expenses: | | | | | | | |
| Research and development | 31,812,431 | 30,219,758 | 20,875,536 | 21,219,853 | 19,509,629 | 9,624,012 | 8,636,020 |
| General and administrative | 19,397,532 | 22,432,585 | 18,015,761 | 14,311,079 | 11,628,732 | 5,728,580 | 4,612,525 |
| Acquired in-process research and development | 16,131,002 | — | — | — | — | — | — |
| Depreciation and amortization (including $4,635,489 impairment charges in 2010) | 813,891 | 872,304 | 5,655,865 | 461,073 | 303,916 | 162,358 | 94,456 |
| Total operating expenses | 68,154,856 | 53,524,647 | 44,547,162 | 35,992,005 | 31,442,277 | 15,514,950 | 13,343,001 |
| Loss from operations | (33,975,493) | (25,974,669) | (23,553,557) | (11,725,731) | (6,266,390) | (3,048,900) | (2,572,463) |
| Other income (expense): | | | | | | | |
| Interest income | 1,225,471 | 269,133 | 6,955 | 16,660 | 17,808 | 7,807 | 2,439 |
| Interest expense | (2,573,406) | (2,837,302) | (5,936,480) | (54,573) | (342,561) | (114,381) | (199,818) |
| Change in fair value of derivative instruments | 118,244 | 1,043,782 | (5,457,550) | 7,144,983 | 591,039 | (167,853) | (552,953) |
| Other income (expense) | 58,106 | (90,655) | 91,355 | 39,328 | 47,862 | 53,434 | (4,013) |
| Realization of cumulative translation adjustment | — | — | — | — | 1,227,656 | — | — |
| Gain on the sale of assets held for sale | — | — | — | 781,760 | — | — | — |
| Loss on the early extinguishment of debt | — | (4,690,049) | — | — | — | — | — |
| Total other income (expense) | (1,171,585) | (6,305,091) | (11,295,720) | 7,928,158 | 1,541,804 | (220,993) | (754,345) |
| Net loss before income taxes | (35,147,078) | (32,279,760) | (34,849,277) | (3,797,573) | (4,724,586) | (3,269,893) | (3,326,808) |
| Provision for income taxes | — | — | — | — | (195,529) | (166,538) | (20,949) |
| Net loss | $ (35,147,078) | $ (32,279,760) | $ (34,849,277) | $ (3,797,573) | $ (4,920,115) | (3,436,431) | (3,347,757) |
| Basic and diluted net loss per share | $ (1.53) | $ (1.17) | $ (1.08) | $ (0.08) | $ (0.10) | (0.07) | (0.07) |
| Weighted average shares used in calculation of basic and diluted net loss per share | 22,944,066 | 27,575,332 | 32,309,621 | 47,331,763 | 48,323,067 | 48,297,919 | 49,058,014 |

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| | As of December 31, | | | | | As of June 30, |
|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Balance Sheet Data: | | | | | | |
| Cash and cash equivalents | $19,752,404 | $ 2,673,567 | $11,785,327 | $11,236,771 | $12,701,517 | $ 15,789,909 |
| Working capital | 11,536,932 | 12,018,438 | 17,420,242 | 14,997,664 | 12,307,429 | 13,970,065 |
| Total assets | 57,659,305 | 35,333,049 | 27,199,045 | 22,803,509 | 22,741,404 | 24,586,911 |
| Total long-term liabilities | 1,554,698 | 18,714,430 | 8,824,853 | 2,336,361 | 3,579,148 | 3,644,082 |
| Total stockholders' equity | 20,231,474 | 3,152,399 | 12,210,705 | 15,851,806 | 11,673,840 | 13,220,444 |

**Selected Historical Financial Data of Theraclone**

The selected statement of operations data for the years ended December 31, 2011 and 2012 and the selected balance sheet data as of December 31, 2011 and 2012 are derived from Theraclone's audited financial statements included elsewhere in this proxy statement/prospectus/consent solicitation. The selected statement of operations data for the years ended December 31, 2008, 2009 and 2010 and the selected balance sheet data as of December 31, 2008, 2009 and 2010 are derived from Theraclone's audited financial statements which are not included in this proxy statement/prospectus/consent solicitation.

The selected statement of operations data for the six months ended June 30, 2012 and 2013 and the selected balance sheet data as of June 30, 2013 have been derived from Theraclone's unaudited condensed financial statements included elsewhere in this proxy statement/prospectus/consent solicitation. The unaudited interim financial information has been prepared on the same basis as the annual financial statements and, in the opinion of Theraclone's management, reflect all adjustments, which include only normal recurring adjustments, necessary to present fairly Theraclone's financial position as of June 30, 2013 and the results of operations for the six months ended June 30, 2012 and 2013.

Historical results are not necessarily indicative of the results that may be expected in the future and interim results are not necessarily indicative of results to be expected for the full year. You should read the selected historical financial data below in conjunction with the section titled "THERACLONE'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" and the financial statements and related notes included elsewhere in this proxy statement/prospectus/consent solicitation.

| | Years Ended December 31, | | | | | Six Months Ended June 30, | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 | 2013 |
| | (in thousands, except per share data) | | | | | | |
| **Statement of Operations Data** | | | | | | | |
| Revenue | $ 385 | $ 738 | $ 4,591 | $ 8,384 | $ 19,360 | $ 4,167 | $ 4,495 |
| Operating expenses: | | | | | | | |
| Research and development | 9,354 | 7,316 | 10,293 | 14,816 | 19,611 | 6,594 | 5,608 |
| General and administrative | 2,654 | 1,924 | 1,949 | 1,827 | 2,461 | 1,100 | 1,390 |
| Total operating expenses | 12,008 | 9,240 | 12,242 | 16,643 | 22,072 | 7,694 | 6,998 |
| Loss from operations | (11,623) | (8,502) | (7,651) | (8,259) | (2,712) | (3,527) | (2,503) |
| Other income (expense): | | | | | | | |
| Change in fair value of financial instruments | 25 | 7 | (22) | 4 | 3 | — | 228 |
| Interest income | 388 | 7 | 2 | 1 | — | — | — |
| Interest expense | (200) | (217) | (147) | (104) | (69) | (37) | (107) |
| Grant income | — | — | 978 | — | — | — | — |
| Net loss | (11,410) | (8,705) | (6,840) | (8,358) | (2,778) | (3,564) | (2,382) |
| Comprehensive loss | (11,410) | (8,705) | (6,840) | (8,358) | (2,778) | (3,564) | (2,382) |
| Accretion of redeemable convertible preferred stock | (2,071) | (2,064) | (2,136) | (2,381) | (2,826) | (1,417) | (1,429) |
| Net loss attributable to common stockholders | $ (13,481) | $ (10,769) | $ (8,976) | $ (10,739) | $ (5,604) | $ (4,981) | $ (3,811) |
| Net loss per share attributable to common stockholders – basic and diluted | $ (11.46) | $ (8.46) | $ (6.96) | $ (8.07) | $ (4.16) | $ (3.70) | $ (1.98) |
| Weighted average common shares outstanding basic and diluted | 1,176,527 | 1,272,915 | 1,289,687 | 1,330,968 | 1,346,898 | 1,346,898 | 1,919,767 |

| | As of December 31, | | | | | As of June 30, |
|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| | (amounts in thousands) | | | | | |
| **Selected Balance Sheet Data** | | | | | | |
| Cash and cash equivalents | $ 15,630 | $ 9,022 | $ 9,146 | $ 15,799 | $ 5,426 | $ 7,215 |
| Working capital | 13,850 | 5,167 | 2,348 | 4,367 | 774 | 4,630 |
| Total assets | 18,734 | 11,586 | 15,157 | 18,474 | 8,975 | 9,533 |
| Notes payable | 2,058 | 1,478 | 829 | 1,104 | 812 | 3,465 |
| Redeemable convertible preferred stock warrant liability | 17 | 10 | 32 | 51 | 48 | 175 |
| Redeemable convertible preferred stock | 37,916 | 39,980 | 43,216 | 57,182 | 60,008 | 63,996 |
| Accumulated deficit | (22,958) | (33,547) | (42,442) | (53,015) | (58,444) | (61,024) |
| Total stockholders' deficit | (22,957) | (33,546) | (42,441) | (53,014) | (58,443) | (61,022) |

**Selected Unaudited Pro Forma Condensed Combined Financial Data of PharmAthene and Theraclone**

The following unaudited pro forma condensed combined balance sheet as of June 30, 2013 and the unaudited pro forma condensed combined statement of operations for the six months ended June 30, 2013 and the year ended December 31, 2012 are based on the historical financial statements of PharmAthene and Theraclone after giving effect to the merger. The merger will be accounted for using the acquisition method of accounting.

The unaudited pro forma condensed combined statement of operations for the six months ended June 30, 2013 gives effect to the merger as if it had occurred on January 1, 2013. The unaudited pro forma condensed combined statement of operations for the year ended December 31, 2012 gives effect to the merger as if it had occurred on January 1, 2012. The unaudited pro forma condensed combined balance sheet as of June 30, 2013 assumes that the merger took place on June 30, 2013.

The unaudited pro forma condensed combined financial statements are provided for informational purposes only, are subject to a number of uncertainties and assumptions, do not purport to represent what the companies' actual performance or financial position would have been had the merger occurred on the dates indicated and do not purport to indicate the financial position or results of operations as of any future date or for any future period. The unaudited pro forma condensed combined balance sheet and statement of operations as of and for the six months ended June 30, 2013 were derived from (i) PharmAthene's unaudited condensed consolidated financial statements as of and for the six months ended June 30, 2013 as included in this proxy statement/prospectus/consent solicitation and (ii) Theraclone's unaudited financial statements as of and for the six month period ended June 30, 2013 as included in this proxy statement/prospectus/consent solicitation. The unaudited pro forma condensed combined statement of operations for the year ended December 31, 2012 was derived from (i) PharmAthene's audited consolidated financial statements as of and for the year ended December 31, 2012 as included in this proxy statement/prospectus/consent solicitation and (ii) Theraclone's audited financial statements as of and for the year ended December 31, 2012 as included in this proxy statement/prospectus/consent solicitation.

The unaudited pro forma condensed combined financial statements reflect the purchase consideration and the fair value of the tangible and intangible assets acquired and liabilities assumed based on estimates prepared by PharmAthene's and Theraclone's management using information currently available. Upon completion of the merger, when the final purchase consideration is known, and as third-party valuations are performed, increases or decreases in the fair value of the purchase consideration, assets acquired (including goodwill) and liabilities assumed will result in adjustments, which may be material to the balance sheet and/or statement of operations.

As required, the unaudited pro forma condensed combined financial data include adjustments which give effect to the events that are directly attributable to the merger, are expected to have a continuing impact and are factually supportable. Accordingly, any planned adjustments affecting the balance sheet, statement of operations or changes in common stock outstanding, subsequent to the assumed closing date of the merger, are not included.

**PharmAthene, Inc.**
**Unaudited Pro Forma Condensed Combined Balance Sheet**
**As of June 30, 2013**

| | Historical | | | Pro Forma | Combined |
|---|---|---|---|---|---|
| | PharmAthene | Theraclone | | Adjustments | Pro Forma |
| **Current assets** | | | | | |
| Cash and cash equivalents | $ 15,790,000 | $ 7,215,000 | E | $ 4,000,000 | $ 27,005,000 |
| Billed accounts receivable | 1,540,000 | 608,000 | | — | 2,148,000 |
| Unbilled accounts receivable | 3,695,000 | — | | — | 3,695,000 |
| Prepaid expenses and other current assets | 668,000 | 262,000 | | — | 930,000 |
| Redeemable convertible preferred stock forward contract | — | 53,000 | C | (53,000) | — |
| Total current assets | 21,693,000 | 8,138,000 | | 3,947,000 | 33,778,000 |
| Property and equipment, net | 460,000 | 1,267,000 | | — | 1,727,000 |
| Other long term assets and deferred costs | 86,000 | 128,000 | | — | 214,000 |
| Identifiable intangible assets | — | — | B | 44,625,000 | 44,625,000 |
| Goodwill | 2,348,000 | — | B | 33,676,000 | 36,024,000 |
| **Total Assets** | $ 24,587,000 | $ 9,533,000 | | $ 82,248,000 | $ 116,368,000 |
| **Current liabilities** | | | | | |
| Accounts payable | $ 2,993,000 | $ 181,000 | D | $ 5,610,000 | $ 11,669,000 |
| | | | F | 2,885,000 | |
| Accrued expenses and other liabilities | 2,054,000 | 1,419,000 | | — | 3,473,000 |
| Deferred revenue | 508,000 | 916,000 | | — | 1,424,000 |
| Current portion of long-term debt | 1,000,000 | 992,000 | | — | 1,992,000 |
| Short-term debt | 1,168,000 | — | | — | 1,168,000 |
| Total current liabilities | 7,723,000 | 3,508,000 | | 8,495,000 | 19,726,000 |
| Other long-term liabilities | 578,000 | 403,000 | H | (403,000) | 578,000 |
| Long-term debt, less current portion | 1,218,000 | 2,473,000 | | — | 3,691,000 |
| Derivative instruments | 1,848,000 | 175,000 | C | (831,000) | 1,848,000 |
| | | | E | 656,000 | |
| **Total liabilities** | 11,367,000 | 6,559,000 | | 7,917,000 | 25,843,000 |
| **Redeemable convertible preferred stock** | | | | | |
| Redeemable convertible preferred stock | — | 63,996,000 | C | (63,996,000) | — |
| | | | C | (4,000,000) | |
| | | | E | 4,000,000 | |
| **Stockholders' equity** | | | | | |
| Common stock | 5,000 | 2,000 | C | (2,000) | 9,000 |
| | | | A | 4,000 | |
| Additional paid-in-capital | 215,393,000 | — | C | 656,000 | 302,014,000 |
| | | | A | 69,096,000 | |
| | | | A | 8,300,000 | |
| | | | A | 1,275,000 | |
| | | | A | 7,125,000 | |
| | | | E | (656,000) | |
| | | | F | 825,000 | |
| Accumulated other comprehensive loss | (220,000) | — | | | (220,000) |
| Accumulated deficit | (201,958,000) | (61,024,000) | C | 61,024,000 | (211,278,000) |
| | | | D | (5,610,000) | |
| | | | F | (3,710,000) | |
| Total stockholders' equity (deficit) | 13,220,000 | (61,022,000) | | 138,327,000 | 90,525,000 |
| **Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)** | $ 24,587,000 | $ 9,533,000 | | $ 82,248,000 | $ 116,368,000 |

**PharmAthene, Inc.**
**Unaudited Pro Forma Condensed Combined Statement of Operations**
**For the six months ended June 30, 2013**

| | Historical | | | Pro Forma | Combined |
|---|---|---|---|---|---|
| | PharmAthene | Theraclone | | Adjustments | Pro Forma |
| **Revenue** | | | | | |
| Revenue | $ 10,771,000 | $ 4,495,000 | | $ — | $ 15,266,000 |
| **Operating expenses:** | | | | | |
| Research and development | 8,636,000 | 5,325,000 | G | 345,000 | 14,327,000 |
| | | | H | 21,000 | |
| General and administrative including transaction fees | 4,613,000 | 1,384,000 | D | (190,000) | 6,404,000 |
| | | | G | 593,000 | |
| | | | H | 4,000 | |
| Depreciation | 94,000 | 289,000 | | — | 383,000 |
| Total operating expenses | 13,343,000 | 6,998,000 | | 773,000 | 21,114,000 |
| **Loss from operations** | (2,572,000) | (2,503,000) | | (773,000) | (5,848,000) |
| **Other income (expense):** | | | | | |
| Interest income | 2,000 | — | | — | 2,000 |
| Interest expense | (200,000) | (107,000) | | — | (307,000) |
| Change in fair value of derivative instruments | (553,000) | 228,000 | C | (228,000) | (553,000) |
| Other income (expense), net | (4,000) | — | | — | (4,000) |
| Total other income (expense) | (755,000) | 121,000 | | (228,000) | (862,000) |
| **Net loss before provision for income taxes** | (3,327,000) | (2,382,000) | | (1,001,000) | (6,710,000) |
| Provision for income taxes | (21,000) | — | | — | (21,000) |
| **Net loss** | (3,348,000) | (2,382,000) | | (1,001,000) | (6,731,000) |
| Accretion of redeemable convertible preferred stock | — | (1,429,000) | C | 1,429,000 | — |
| **Net loss attributable to common stockholders – basic and diluted** | $ (3,348,000) | $ (3,811,000) | | $ 428,000 | $ (6,731,000) |
| **Earnings per share** | | | | | |
| Basic | $ (0.07) | | I | | $ (0.07) |
| Diluted | $ (0.07) | | I | | $ (0.07) |
| Weighted average outstanding shares – basic | 49,058,014 | | | | 92,519,650 |
| Weighted average outstanding shares – diluted | 49,058,014 | | | | 92,519,650 |

**PharmAthene, Inc.**
**Unaudited Pro Forma Condensed Combined Statement of Operations**
**For the year ended December 31, 2012**

| | Historical | | | Pro Forma | Combined |
|---|---|---|---|---|---|
| | PharmAthene | Theraclone | | Adjustments | Pro Forma |
| **Revenue** | | | | | |
| Revenue | $ 25,176,000 | $ 19,360,000 | | $ — | $ 44,536,000 |
| **Operating expenses** | | | | | |
| Research and development | 19,509,000 | 18,797,000 | G | 687,000 | 39,090,000 |
| | | | H | 97,000 | |
| General and administrative | 11,629,000 | 2,439,000 | G | 1,183,000 | 15,270,000 |
| | | | H | 19,000 | |
| Depreciation | 304,000 | 836,000 | | — | 1,140,000 |
| Total operating expenses | 31,442,000 | 22,072,000 | | 1,986,000 | 55,500,000 |
| **Loss from operations** | (6,266,000) | (2,712,000) | | (1,986,000) | (10,964,000) |
| **Other income (expense):** | | | | | |
| Interest income | 18,000 | — | | — | 18,000 |
| Interest expense | (343,000) | (69,000) | | — | (412,000) |
| Change in fair value of derivative instruments | 591,000 | 3,000 | C | (3,000) | 591,000 |
| Realization of cumulative translation adjustment | 1,228,000 | — | | — | 1,228,000 |
| Other income (expense), net | 48,000 | — | | — | 48,000 |
| Total other income (expense) | 1,542,000 | (66,000) | | (3,000) | 1,473,000 |
| **Net loss before provision for income taxes** | (4,724,000) | (2,778,000) | | (1,989,000) | (9,491,000) |
| Provision for income taxes | (196,000) | — | | — | (196,000) |
| **Net loss** | (4,920,000) | (2,778,000) | | (1,989,000) | (9,687,000) |
| Accretion of redeemable convertible preferred stock | — | (2,826,000) | C | 2,826,000 | — |
| **Net loss attributable to common stockholders – basic and diluted** | $ (4,920,000) | $ (5,604,000) | | $ 837,000 | $ (9,687,000) |
| **Earnings per share** | | | | | |
| Basic | $ (0.10) | | I | | $ (0.11) |
| Diluted | $ (0.10) | | I | | $ (0.11) |
| Weighted average outstanding shares – basic | 48,323,067 | | | | 91,784,703 |
| Weighted average outstanding shares – diluted | 48,323,067 | | | | 91,784,703 |

**Notes to Unaudited Condensed Combined Pro Forma Financial Statements**

**Note 1. Description of the Merger**

PharmAthene and Merger Sub, its wholly owned subsidiary, entered into an Agreement and Plan of Merger with Theraclone and Steven Gillis, Ph.D., as Securityholders' Representative, dated July 31, 2013. Pursuant to the terms of the Merger Agreement, at closing PharmAthene will acquire all of the issued and outstanding common stock and equity-linked securities of Theraclone in a transaction structured as a tax-free exchange. Theraclone will become a wholly owned subsidiary of PharmAthene.

The Merger Agreement is subject to numerous closing conditions, including but not limited to:

- approval of the issuance of shares of PharmAthene common stock in connection with the merger, and approval of an increase in the authorized number of shares of PharmAthene common stock, by PharmAthene's stockholders;
- the adoption and approval of the Merger Agreement and the transactions contemplated thereby by Theraclone's stockholders;
- the effectiveness of the registration statement on Form S-4 of which this proxy statement/prospectus/consent solicitation is a part;
- approval for listing on the NYSE MKT of shares of PharmAthene common stock to be issued in connection with the merger;

- exercise of appraisal rights by no more than 5% of Theraclone stockholders (PharmAthene stockholders do not have appraisal rights in this merger);
- all $8,000,000 of capital committed to Theraclone pursuant to its Series B-1 Preferred Stock and Warrant Purchase and Exchange Agreement shall have been delivered to Theraclone; and
- other customary closing conditions.

The unaudited pro forma condensed combined statement of operations for the six months ended June 30, 2013 gives effect to the merger as if it had occurred on January 1, 2013. The unaudited pro forma condensed combined statement of operations for the year ended December 31, 2012 gives effect to the merger as if it had occurred on January 1, 2012. The unaudited pro forma condensed combined balance sheet as of June 30, 2013 assumes that the merger took place on June 30, 2013.

*Purchase Consideration*

Prior to the merger, Theraclone's preferred stockholders will convert such holdings into shares of Theraclone's common stock on a one-for-one basis. In addition, Theraclone's outstanding stock purchase warrants to purchase preferred stock will be exchanged into stock purchase warrants to purchase common stock.

PharmAthene will issue, as consideration for the merger, shares of its common stock in exchange for shares of Theraclone's common stock, on a formulaic basis as outlined in the Merger Agreement. As of June 30, 2013, the Exchange Ratio was estimated to be approximately 1.096 shares of PharmAthene common stock for every share of Theraclone common stock outstanding. Based on this Exchange Ratio, and the number of outstanding shares as of June 30, 2013, PharmAthene estimated it would issue a total of 43,461,636 shares of its common stock in exchange for all of the outstanding common stock of Theraclone.

In addition, PharmAthene is contractually obligated to issue new options to acquire its common stock, or the Replacement Options, and new warrants to acquire its common stock, or the Replacement Warrants, to the holders of Theraclone's stock options and stock purchase warrants, in exchange for such options and warrants, using the same Exchange Ratio. The Replacement Options and Replacement Warrants will have the same terms and conditions as those that existed with Theraclone, except that the number of shares of common stock to be acquired, and the exercise prices, will be adjusted based on the Exchange Ratio. Based on the Exchange Ratio, and the number of outstanding stock options and stock purchase warrants as of June 30, 2013, PharmAthene estimated it would issue a total of 9,615,618 Replacement Options and 6,144,026 Replacement Warrants in exchange for all of the outstanding options and warrants of Theraclone.

A portion of the Replacement Options is tied to future employment by PharmAthene and vest during a post-combination service period and will be expensed during such service period.

**Note 2. Basis of Pro Forma Presentation**

The unaudited pro forma condensed combined financial statements have been prepared based on PharmAthene's and Theraclone's historical financial information. Certain disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted as permitted by SEC rules and regulations. Certain amounts contained in Theraclone's financial statements have been reclassified to conform to PharmAthene's financial statement presentation; these reclassifications related to depreciation expense and had no effect on Theraclone's net loss for the six months ended June 30, 2013 or the year ended December 31, 2012.

The fair value of PharmAthene's common stock was calculated using the closing stock price for PharmAthene's common stock at June 30, 2013 which was $1.59. The fair values of the Replacement Warrants and the vested Replacement Options were calculated using the Black-Scholes option pricing model, which includes the use of unobservable inputs such as the expected term, anticipated volatility and expected dividends. The actual fair value of PharmAthene's common stock, the Replacement Warrants and the vested Replacement Options as of the closing date will vary as the price of PharmAthene's common stock changes; accordingly, such actual fair values may be materially different from the estimates used in the pro forma financial information.

**Note 3. Acquisition Method of Accounting**

The unaudited pro forma condensed combined financial statements reflect accounting for the merger in accordance with the acquisition method of accounting. Under the acquisition method, the purchase consideration is allocated to the assets acquired and the liabilities assumed based on their estimated fair values, with any excess of the purchase consideration over the estimated fair values of the identifiable net assets acquired being recorded as goodwill.

The following table demonstrates the allocation of the purchase consideration to the assets acquired and liabilities assumed on June 30, 2013, based on their estimated fair values:

| | Estimated Fair Value |
|---|---|
| Purchase Consideration: | |
| Common Stock | $ 69,100,000 |
| Replacement Warrants | 9,575,000 |
| Replacement Options | 7,125,000 |
| Total Consideration | $ 85,800,000 |
| Tangible Assets Acquired: | |
| Cash | $ 11,215,000 |
| Receivables | 608,000 |
| Property and Equipment, Net | 1,267,000 |
| Other | 390,000 |
| Net Deferred Tax Assets | — |
| Identifiable Intangible Assets Acquired: | |
| IPR&D Technology | 44,625,000 |
| Liabilities Assumed: | |
| Accounts Payable and Accrued Expenses | 1,600,000 |
| Note Payable | 3,465,000 |
| Deferred Revenue | 916,000 |
| Goodwill | 33,676,000 |
| | $ 85,800,000 |

Based on a preliminary assessment, which may change once additional information is obtained and final valuations are performed, the identifiable intangible assets that PharmAthene has identified relate to in-process research and development, or IPR&D, associated with Theraclone's two lead product candidates TCN-032 and TCN-202. Identifiable intangible assets associated with IPR&D are initially classified as indefinite lived; such classification will be reassessed every reporting period based on the status of the research and development projects. Goodwill is also considered an indefinite lived asset. Acquired deferred tax assets, net of deferred tax liabilities have been reduced by a full valuation allowance for this amount given management's assessment of the likelihood that the deferred assets will be realized; these amounts are reflected on a net basis in the above table.

**Note 4. Pro Forma Assumptions and Adjustments**

The following assumptions and adjustments apply to the unaudited pro forma condensed combined financial statements:

A) Represents the pro forma payment of the purchase consideration, including the fair value of the (i) common stock, (ii) vested Replacement Options, and (iii) Replacement Warrants. Based on their terms, the Replacement Options and Replacement Warrants are classified as equity.

B) Represents the pro forma impact of the allocation of the purchase consideration to the (i) tangible and identifiable intangible assets acquired, (ii) liabilities assumed, and (iii) goodwill.

C) Represents the pro forma elimination as a result of the merger of (i) Theraclone's historical equity (permanent and temporary) accounts and temporary-equity-linked securities classified as assets or liabilities as of June 30, 2013, (ii) the change in fair value of Theraclone's temporary-equity-linked securities classified as liabilities for the six months ended June 30, 2013 and the year ended December 31, 2012, and (iii) accretion of Theraclone's preferred stock dividends for the six months ended June 30, 2013 and the year ended December 31, 2012.

D) Represents the pro forma impact to the balance sheet of accruing approximately $5,610,000 of expenses in connection with the merger, or Transaction Expenses, that are expected to be incurred after June 30, 2013 (including changes made to board of director compensation arrangements), and to the statement of operations of eliminating approximately $190,000 of Transaction Expenses that were incurred in the six month period ended June 30, 2013 by PharmAthene and Theraclone.

E) Represents the pro forma issuance of 2,666,667 shares of Theraclone's preferred stock and related warrants to purchase 465,228 shares of preferred stock at a purchase price of $1.50 per share and an exercise price of $0.01 per share (which occurred after June 30, 2013 and was a condition to closing under the terms of the Merger Agreement) and the related receipt of $4,000,000 of gross proceeds.

F) Represents the pro forma impact to the balance sheet to record modifications made to employment agreements associated with PharmAthene's departing Chief Executive Officer and Chief Financial Officer accounted for as Transaction Expenses, incurred as a result of the merger.

G) Represents adjustments made to stock-based compensation expense for unvested Replacement Options granted to Theraclone employees that vest during a post-merger service period. The fair value of the stock options was calculated using the Black-Scholes option pricing model.

H) Represents the elimination of Theraclone's deferred rent as of June 30, 2013, and the elimination of the amortization of deferred rent for the six months ended June 30, 2013 and the year ended December 31, 2012, since deferred rent does not meet the definition of an asset or liability in purchase accounting. Also represents the amortization of new deferred rent as if the merger occurred on either January 1, 2012 or 2013.

I) Pro forma loss per share, basic and diluted, includes the pro forma impacts of issuance of the purchase consideration and is calculated as follows:

| | Basic and Diluted | |
|---|---|---|
| | Six Months Ended June 30, 2013 | Year Ended December 31, 2012 |
| Net loss available to common stockholders, as originally reported | $ (3,348,000) | $ (4,920,000) |
| Pro forma net loss available to common stockholders | $ (6,731,000) | $ (9,687,000) |
| Weighted Average outstanding shares for the period, as originally reported | 49,058,014 | 48,323,067 |
| Pro forma adjustments: | | |
| Common shares issued to Theraclone stockholders | 43,461,636 | 43,461,636 |
| Pro forma weighted average outstanding shares for the period | 92,519,650 | 91,784,703 |
| Earnings loss per share basic and diluted, as originally reported | $ (0.07) | $ (0.10) |
| Pro forma earnings loss per share basic and diluted | $ (0.07) | $ (0.11) |

**Comparative Historical and Unaudited Pro Forma Per Share**

The information below reflects:

- the historical net loss and book value per share of PharmAthene and the historical net loss and book value per share of Theraclone common stock in comparison with the unaudited pro forma net loss and book value per share after giving effect to the proposed merger of PharmAthene with Theraclone on a purchase basis; and
- the equivalent historical net loss per share attributable to shares of PharmAthene common stock which will be issued in the merger.

You should read the tables below in conjunction with the respective audited and unaudited financial statements of PharmAthene and Theraclone and related notes, and the unaudited pro forma condensed financial information and related notes included elsewhere in this proxy statement/prospectus/consent solicitation.

| | As of and for the Year Ended December 31, 2012 | As of and for the Six Months Ended June 30, 2013 |
|---|---|---|
| **PharmAthene Historical Data** | | |
| Basic and diluted net loss per common share: | $ (.10) | $ (.07) |
| Book value per share | | $ .26 |
| **Theraclone Historical Data** | | |
| Basic and diluted net loss per common share: | $ (4.16) | $ (1.98) |
| Book value per share | | $ (26.80) |
| **Combined Company Pro Forma Data** | | |
| Basic and diluted net loss per common share: | $ (.11) | $ (.07) |
| Book value per share | | .98 |
| **PharmAthene Pro Forma Equivalent Data**[(1)] | | |
| Basic and diluted net loss per common share: | $ (.12) | $ (.08) |
| Book value per share | | $ 1.07 |

(1) Pro forma equivalent amounts are calculated by multiplying pro forma combined per share amounts by the assumed exchange ratio of 1.096.

## MARKET PRICE AND DIVIDEND INFORMATION

### PharmAthene

PharmAthene's common stock trades on the NYSE MKT (formerly NYSE Amex) under the symbol "PIP". The following table sets forth the range of high and low sales prices per share of PharmAthene's common stock on the NYSE MKT for the past three years during the periods shown.

| Fiscal Year 2013 | High | Low |
|---|---|---|
| 4th Quarter Ended December 31 (through October 22) | $ 2.22 | $ 1.85 |
| 3rd Quarter Ended September 30 | $ 2.42 | $ 1.53 |
| 2nd Quarter Ended June 30 | $ 2.20 | $ 1.47 |
| 1st Quarter Ended March 31 | $ 2.05 | $ 1.02 |
| **Fiscal Year 2012** | **High** | **Low** |
| 4th Quarter Ended December 31 | $ 1.47 | $ .98 |
| 3rd Quarter Ended September 30 | $ 1.70 | $ 1.13 |
| 2nd Quarter Ended June 30 | $ 1.89 | $ 1.18 |
| 1st Quarter Ended March 31 | $ 2.10 | $ 1.20 |
| **Fiscal Year 2011** | **High** | **Low** |
| 4th Quarter Ended December 31 | $ 1.88 | $ 1.07 |
| 3rd Quarter Ended September 30 | $ 3.35 | $ 1.74 |
| 2nd Quarter Ended June 30 | $ 4.08 | $ 2.41 |
| 1st Quarter Ended March 31 | $ 4.58 | $ 3.01 |

On July 31, 2013, the last trading day prior to announcement of the merger, the last reported sale price of PharmAthene common stock was $1.77, for an aggregate market value of PharmAthene of approximately $92.6 million, or approximately $106.8 million on a fully diluted basis (excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share). Upon completion of the merger, assuming it was completed on July 31, 2013 and an aggregate of 60,316,126 shares of PharmAthene common stock were issued, the market value attributable to the Theraclone capital stock of the outstanding equity of the combined company calculated on a fully diluted basis, which would represent approximately 50% (excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share), would equal approximately $106.8 million. On October 4, 2013, the latest practicable date before the filing of this proxy statement/prospectus/consent solicitation, the last reported sale price of PharmAthene common stock was $2.10, for an aggregate market value of PharmAthene of approximately $109.9 million, or approximately $126.7 million on a fully diluted basis (excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share). Upon completion of the merger, assuming it was completed on October 4, 2013 and an aggregate of 60,316,126 shares of PharmAthene common stock were issued, the market value attributable to the Theraclone capital stock of the outstanding equity of the combined company calculated on a fully diluted basis, which would represent approximately 50% (excluding PharmAthene warrants and options with an exercise price of more than $2.50) would equal approximately $126.7 million.

#### Holders

As of October 4, 2013, PharmAthene had 73 record holders of its common stock. The number of record holders is based on the actual number of holders registered on the books of PharmAthene's transfer agent and does not reflect holders of shares in "street name" or persons, partnerships, associations, corporations or other entities identified in security position listings maintained by depository trust companies.

### Theraclone

Theraclone is a privately-held company, and there is no established trading market for its securities. As of October 4, 2013, there were 2,335,152 shares of Theraclone common stock outstanding, 4,765,145 shares of Theraclone Series A-1 convertible preferred stock outstanding and 32,608,456 shares of Theraclone Series B-1 convertible preferred stock outstanding, and there were approximately 35 holders of record of Theraclone capital stock.

**Dividends**

PharmAthene has not paid any dividends on its common stock in 2013, 2012 and 2011 and does not intend to declare any dividends in the foreseeable future. While subject to periodic review, the current policy of the PharmAthene Board of Directors is to retain all earnings, if any, primarily to finance future growth. The Loan and Security Agreement, dated as of March 30, 2012 (as amended, restated, supplemented or otherwise modified from time to time), among General Electric Capital Corporation, the Lenders (as defined therein), PharmAthene, and any other Loan Parties (as defined therein), or the GE Loan Agreement, specifically restricts the declaration or payment of any dividends. PharmAthene makes no assurances that it will ever pay dividends, cash or otherwise.

Theraclone has never declared or paid any cash dividends on its capital stock nor does it intend to do so in the foreseeable future. Theraclone's credit and loan agreements restrict the payment of any cash dividends.

## RISK FACTORS

*Stockholders and potential investors should carefully consider the risks described below relating to the merger, an investment in PharmAthene's common stock and the business of PharmAthene and Theraclone. The risks and uncertainties described below are not the only ones PharmAthene and Theraclone face. Additional risks and uncertainties not presently known to PharmAthene or Theraclone that they currently consider immaterial may also impair their business operations. If any of the following risks actually occur, PharmAthene's and Theraclone's business, financial conditions and/or results of operations could be materially adversely affected, the trading price of PharmAthene's common stock could decline and a stockholder could lose all or part of his or her investment.*

### Risks Related to the Proposed Merger

***The issuance of shares of PharmAthene common stock to Theraclone stockholders in the merger will dilute substantially the voting power of current PharmAthene stockholders.***

Pursuant to the terms of the Merger Agreement, at the Effective Time, all outstanding shares of Theraclone common stock will be converted into shares of PharmAthene common stock based on the exchange ratio. Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis.

Accordingly, the issuance of shares of PharmAthene common stock to Theraclone stockholders in the merger will reduce significantly the relative voting power of each share of PharmAthene common stock held by current PharmAthene stockholders. Consequently, PharmAthene stockholders as a group will have significantly less influence over the management and policies of the combined company after the merger than prior to the merger.

***There is no assurance when or even if the merger will be completed. Failure to obtain required approvals necessary to satisfy closing conditions may delay or prevent completion of the merger.***

Completion of the merger is subject to the satisfaction or waiver of a number of conditions, including the requisite approvals by the stockholders of PharmAthene and the stockholders of Theraclone. There can be no assurance that PharmAthene or Theraclone will be able to satisfy the closing conditions or that closing conditions beyond their control will be satisfied or waived. If the merger is not completed, PharmAthene will need to consider other strategic alternatives to grow and diversify its business to enhance stockholder value.

***Because the lack of a public market for Theraclone's outstanding shares makes it difficult to evaluate the fairness of the merger, Theraclone stockholders may receive consideration in the merger that is greater than or less than the fair market value of the Theraclone shares.***

The outstanding capital stock of Theraclone is privately held and is not traded in any public market. The lack of a public market makes it extremely difficult to determine the fair market value of Theraclone shares. Since the percentage of PharmAthene's equity to be issued to Theraclone stockholders was determined based on negotiations between the parties, it is possible that the value of the PharmAthene common stock to be issued in connection with the merger will be greater than the fair market value of Theraclone shares. Alternatively, it is possible that the value of the shares of PharmAthene common stock to be issued in connection with the merger will be less than the fair market value of Theraclone shares.

***PharmAthene's valuation is highly dependent on the outcome of the SIGA litigation and, because the timing and outcome of the SIGA litigation is inherently uncertain, its impact on PharmAthene cannot be determined with certainty.***

Prior to May 2013 one of PharmAthene's primary assets was its financial interest in Arestvyr™ and related products as a result of the September 2011 ruling of the Delaware Chancery Court. In May 2013, the Delaware Supreme Court affirmed the trial court's ruling that SIGA had breached certain contractual obligations to PharmAthene, but remanded the matter back to the Delaware Chancery Court to determine a remedy consistent with the Delaware Supreme Court's opinion. Previously, the Delaware Chancery Court, in its May 31, 2012 judgment, had awarded PharmAthene the right to receive 50% of all net profits in connection with the sale of SIGA's Arestvyr™ and related products once SIGA retained the first $40 million in profits (see below) and a portion of PharmAthene's attorney fees and expert witness and other costs. As a result of PharmAthene's successful breach of contract case against SIGA, PharmAthene believes that it has significant revenue potential under a potential damages award from the Delaware Chancery Court.

Previously, the Delaware Chancery Court, in its May 31, 2012 judgment, had awarded PharmAthene the right to (1) receive 50% of all net profits in connection with the sale of SIGA's Arestvyr™ and related products (once SIGA retained the first $40 million in profits) and (2) a portion of PharmAthene's attorney fees and expert witness and other costs.

However, notwithstanding the Delaware Supreme Court's May 2013 affirmation that SIGA breached contractual obligations to PharmAthene, its remand of the issue of the remedy back to the Delaware Chancery Court for reconsideration has effectively deprived PharmAthene of any current financial interest in Arestvyr™ and related products (see — "As a result of the ruling of the Delaware Supreme Court, PharmAthene no longer has a financial interest in Arestvyr™ and there can be no assurance that the Delaware Chancery Court will issue a remedy that provides PharmAthene with a financial interest in that product or another remedy").

PharmAthene has taken the position in documents submitted to the courts, that its damages may be as high as $1 billion. SIGA has taken the position, in documents that it has submitted to the courts, that it owes PharmAthene no or nominal damages. PharmAthene expects to continue to pursue in court its position that, as a result of PharmAthene's successful breach of contract case against SIGA, PharmAthene deserves significant damages in its award from the Delaware Court of Chancery.

PharmAthene cannot predict the outcome of the SIGA litigation, and there can be no assurance that the Delaware Chancery Court will re-instate its prior remedy or order another remedy for PharmAthene or that SIGA will not appeal any subsequent decision by the Delaware Chancery Court. It is possible the litigation could continue for the foreseeable future. Due to the uncertainty of the timing and the ultimate outcome of the SIGA litigation, as well as PharmAthene's lack of access to information about SIGA's sales of Arestvyr™ and related products, inability to influence SIGA's sales of Arestvyr™ and related products and lack of access to information about SIGA's recording of revenues or profits based on any such sales, PharmAthene cannot predict the ultimate value of the SIGA litigation.

PharmAthene's valuation is highly dependent on the outcome of the SIGA litigation. There can be no assurance that the estimated value attributed to the SIGA litigation by PharmAthene and Theraclone in negotiating the Merger Agreement and the merger consideration will prove to be commensurate with the actual outcome of the SIGA litigation. If PharmAthene's valuation of the SIGA litigation for purposes of the merger proves to be materially different than the actual value based on a final and binding court decision, PharmAthene stockholders may have experienced either more or less dilution than they would have had the outcome of the SIGA litigation been known or predictable at the time the Merger Agreement was executed.

***Each of PharmAthene and Theraclone must either refinance or repay their credit facilities simultaneously with the closing of the merger.***

PharmAthene is a party to a senior fully-secured debt facility with GE Capital under which approximately $7.5 million is currently outstanding and Theraclone is a party to a credit facility with MidCap Financial and Silicon Valley Bank under which approximately $6.0 million is currently outstanding. Each of these credit facilities requires the applicable lenders to consent to the merger prior to the closing of the merger. As of the date of this proxy statement/prospectus/consent solicitation, none of the lenders has provided

the required consent. Failure to obtain such consent prior to the closing of the merger would constitute an event of default under each credit facility. PharmAthene and Theraclone have received a non-binding letter of intent from the lenders that provides terms for a $15 million senior secured credit facility with the same three lenders, which is intended to replace the credit facilities currently in place. There can be no assurance that the companies will be able to negotiate binding agreements with the lenders that are satisfactory to the companies, that the companies will be able to satisfy the conditions set forth in the non-binding term sheet necessary for the lenders to enter into and fund a replacement facility or that the lenders will not otherwise determine not to proceed with the transaction. The failure of PharmAthene and Theraclone to enter into a new credit facility to replace the existing facilities could delay the closing of the merger, prevent the closing of the merger or, if the companies determine to proceed without a new facility in place, result in the need to repay the existing facilities, severely depleting the reserve of currently available cash for the combined company.

***Because the merger will be completed after the date of the PharmAthene special meeting of stockholders and the Theraclone written consent of stockholders, at the time of the special meeting or written consent, you will not know the exact number of shares of PharmAthene common stock that the Theraclone stockholders will receive upon completion of the merger.***

Subject to the terms of the Merger Agreement, at the Effective Time, each share of Theraclone common stock issued and outstanding immediately prior to the merger will be canceled, extinguished and automatically converted into the right to receive that number of shares of PharmAthene common stock as determined pursuant to the Exchange Ratio. The Exchange Ratio depends on the fully diluted equity of both companies (but excluding options or warrants of PharmAthene with an exercise price of more than $2.50 per share). See the sections entitled “THE MERGER AGREEMENT — Merger Consideration.” Accordingly, the exact number of shares of PharmAthene common stock that Theraclone stockholders will receive upon completion of the merger will not be available at the time of the PharmAthene special meeting and the Theraclone written consent of stockholders.

***PharmAthene and Theraclone executive officers and directors may have interests in the merger that are different from, or in addition to, those of PharmAthene stockholders and Theraclone stockholders generally.***

The executive officers and directors of PharmAthene and Theraclone may have interests in the merger that are different from, or are in addition to, those of PharmAthene stockholders and Theraclone stockholders generally. The directors of the combined company will consist of five current directors from PharmAthene’s Board of Directors, three current directors from Theraclone’s Board of Directors, and one new director appointed by Theraclone. Current members of PharmAthene’s Board of Directors who resign upon the completion of the merger will receive director fees at current levels for one full quarter following completion of the merger and their concurrent termination, even though they will not remain on the combined company’s Board of Directors through that date. Theraclone’s executive officers will continue to serve as executive officers of the combined company. Further, certain PharmAthene executive officers will receive change in control payments in connection with the merger. In addition, the directors and executive officers of PharmAthene and Theraclone also have certain rights to indemnification and to directors’ and officers’ liability insurance that will be provided by the combined company following completion of the merger. See the sections entitled “THE MERGER — Interests of PharmAthene’s Executive Officers and Directors in the Merger” and “THE MERGER — Interests of Theraclone’s Directors and Executive Officers in the Merger.”

***The pendency of the merger could have an adverse effect on the trading price of PharmAthene common stock and the business, financial condition, results of operations or business prospects for PharmAthene, Theraclone and the combined company.***

While there have been no significant adverse effects to date, the pendency of the merger could disrupt PharmAthene’s and Theraclone’s businesses in the following ways, including:

- third parties may seek to terminate or renegotiate their relationships with PharmAthene or Theraclone as a result of the merger, whether pursuant to the terms of their existing agreements with PharmAthene or Theraclone or otherwise; and

- the attention of PharmAthene and Theraclone management may be directed toward completion of the merger and related matters and may be diverted from the day-to-day business operations of their respective companies, including from other opportunities that otherwise might be beneficial to PharmAthene and Theraclone.

Should they occur, any of these matters could adversely affect the trading price of PharmAthene common stock or harm the financial condition, results of operations or business prospects of PharmAthene, Theraclone and the combined company.

***During the pendency of the merger, PharmAthene and Theraclone may be unable to enter into a business combination with another party because of restrictions in the Merger Agreement.***

The Merger Agreement restricts the ability of PharmAthene and Theraclone to make acquisitions or complete other transactions during the pendency of the merger. While the Merger Agreement is in effect, subject to limited exceptions, each party is prohibited from soliciting, initiating, encouraging or taking actions designed to facilitate any inquiries or the making of any proposal or offer that could lead to such party entering into certain extraordinary transactions with any third party, such as a sale of assets, an acquisition of equity interest, a tender offer for capital stock or a merger or other business combination outside the ordinary course of business. Any such transactions could be favorable to PharmAthene stockholders or Theraclone stockholders. See the sections entitled “THE MERGER AGREEMENT — No Solicitation,” “THE MERGER AGREEMENT — Stockholder Approval” and “THE MERGER AGREEMENT — Termination.”

In addition, certain of PharmAthene stockholders, who in the aggregate beneficially owned approximately 7.5% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of July 31, 2013 (approximately 7.6% as of October 4, 2013), entered into the PharmAthene Voting Agreement, pursuant to which each stockholder agreed to, among other things, vote its shares of PharmAthene common stock in furtherance of the transactions contemplated by the Merger Agreement. Certain of Theraclone’s stockholders, who in the aggregate held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013 (approximately 75% as of October 4, 2013), entered into the Theraclone Voting Agreement, pursuant to which each stockholder agreed to, among other things, vote its shares of Theraclone capital stock in favor of the approval and the adoption of the Merger Agreement and any actions required in furtherance thereof. See the section entitled “VOTING AND OTHER AGREEMENTS.”

These provisions might discourage an otherwise interested third party from considering or proposing an acquisition of PharmAthene or Theraclone, even one that may be deemed of greater value than the merger to PharmAthene stockholders or Theraclone stockholders, as applicable.

***The merger may be completed even though material adverse changes may result from the announcement of the merger, industry-wide changes or other causes.***

In general, either party can refuse to complete the merger if there is a material adverse change affecting the other party between July 31, 2013, the date of the Merger Agreement, and the closing of the merger. However, some types of changes do not permit either party to refuse to complete the merger, even if such changes would have a material adverse effect on PharmAthene or Theraclone. If adverse changes occur but PharmAthene and Theraclone must still complete the merger, the combined company’s stock price may suffer.

***The rights of Theraclone stockholders who become PharmAthene stockholders in the merger will be governed by PharmAthene’s Certificate of Incorporation and Bylaws.***

Theraclone stockholders who receive shares of PharmAthene common stock in the merger will become PharmAthene stockholders. As a result, Theraclone stockholders who become stockholders in PharmAthene will be governed by PharmAthene’s Certificate of Incorporation and PharmAthene’s Bylaws, rather than being governed by Theraclone’s Certificate of Incorporation and Theraclone’s Bylaws. At the Effective Time, the outstanding shares of Theraclone capital stock will be converted into the right to receive shares of PharmAthene common stock. Theraclone preferred stock will be converted to Theraclone common stock and be exchanged for PharmAthene common stock so certain dividend, liquidation, redemption, voting, and protective rights held by holders of Theraclone’s preferred stock pursuant to Theraclone’s Certificate of Incorporation will no longer be applicable. For more information, please see the section entitled “COMPARISON OF RIGHTS OF STOCKHOLDERS.”

***If the merger does not qualify as a reorganization under Section 368(a) of the Code or is otherwise taxable to U.S. holders of Theraclone common stock, then such holders may be required to pay substantial U.S. Federal income taxes.***

Each of Fenwick & West LLP, tax counsel to Theraclone, and Dentons US LLP, tax counsel to PharmAthene, will deliver an opinion, dated as of the closing date of the merger, that the merger will be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code. These opinions will be based on certain assumptions and representations as to factual matters from Theraclone, PharmAthene and the Merger Sub, as well as certain covenants and undertakings by Theraclone, PharmAthene and the Merger Sub. If any of the assumptions, representations, covenants or undertakings is incorrect, incomplete, inaccurate or is violated in any material respect, the validity of the conclusions reached by counsel in their opinions would be jeopardized. Additionally, an opinion of counsel represents counsel's best legal judgment but is not binding on the United States Internal Revenue Service, or IRS, or any court, so there can be no certainty that the IRS will not challenge the conclusions reflected in the opinions or that a court will not sustain such a challenge. If the IRS or a court determines that the merger should not be treated as a reorganization, a holder of Theraclone common stock would recognize taxable gain or loss upon the exchange of Theraclone common stock for PharmAthene common stock pursuant to the merger. See the section entitled "THE MERGER — Material U.S. Federal Income Tax Consequences of the Merger."

***PharmAthene and Theraclone have incurred and will continue to incur significant transaction costs in connection with the merger.***

PharmAthene and Theraclone have incurred and will continue to incur significant transaction costs in connection with the merger. PharmAthene and Theraclone estimate that they will incur aggregate direct transaction costs of approximately $5.8 million associated with the merger, including costs incurred through October 4, 2013, and additional costs associated with the commencement of the combined company's operation as a public company, which cannot be estimated accurately at this time. The costs associated with the merger may increase if any Theraclone stockholders elect to dissent from the merger and seek payment of the fair value of their shares as permitted by Delaware law. If the total costs of the merger exceed PharmAthene's and Theraclone's estimates, the ability of the combined company to achieve its business plan will be adversely affected.

***The combined company's ability to utilize PharmAthene's or Theraclone's net operating loss and tax credit carryforwards in the future may be subject to substantial limitations and may be further limited as a result of the merger.***

Under Section 382 of the Code, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percent change (by value) in its equity ownership over a three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. Further, if the historic business of PharmAthene or Theraclone is not treated as being continued by the combined entity for the two-year period beginning on the date of the merger (referred to as the "continuity of business requirement"), the pre-transaction net operating loss carryforward deductions of PharmAthene or Theraclone (as the case may be) may become substantially reduced or unavailable for use by the combined company. Prior to the merger, PharmAthene may have undergone an "ownership change", and it is expected that the merger will likely result in an "ownership change" of PharmAthene. In addition, it is expected that the merger will result in an "ownership change" of Theraclone. A corporation that experiences an ownership change will generally be subject to an annual limitation on its use of pre-ownership change net operating loss carryforwards (and certain other pre-change tax attributes) equal to, in general, the product of the long-term tax-exempt rate (as published by the IRS for the month in which the ownership change occurs, which rate is 3.50% for October 2013) and the value of the corporation's outstanding stock immediately before the ownership change (subject to certain adjustments), increased by certain built-in gains held by the corporation at the time of the ownership change that are recognized in the five-year period after the ownership period. Accordingly, the combined company's ability to utilize PharmAthene's and Theraclone's pre-merger net operating loss and tax credit carryforwards, which for PharmAthene was, as of December 31, 2012, approximately $134.3 million and for Theraclone was, as of December 31, 2012, approximately $41.2 million, may be substantially limited. PharmAthene's U.S. federal

net operating loss carryforwards of approximately $134.3 million will begin to expire in various years beginning in 2021. Theraclone's U.S. federal net operating loss carryforwards of approximately $41.2 million will begin to expire in various years beginning in 2024. These limitations, in turn, could result in increased future tax payments for the combined company, which could have a material adverse effect on the business, financial condition or results of operations of the combined company.

Under Section 384 of the Code, available net operating loss carryovers of PharmAthene or Theraclone may not be available to offset certain gains arising after the merger from assets held by the other corporation at the effective time of the merger. This limitation will apply to the extent that the gain is attributable to an unrealized built-in-gain in the assets of PharmAthene or Theraclone existing at the effective time of the merger. To the extent that any such gains are recognized in the five-year period after the merger upon the disposition of any such assets, the net operating loss carryovers of the other corporation will not be available to offset such gains (but the net operating loss carryovers of the corporation that owned such assets will not be limited by Section 384 of the Code although they may be subject to other limitations under Section 382 of the Code as described above).

***The anticipated benefits of the merger may not be realized fully or at all or may take longer to realize than expected.***

The merger involves the integration of two companies that have previously operated independently with principal offices in two distinct locations. Due to legal restrictions, PharmAthene and Theraclone are able to conduct only limited planning regarding the integration of the two companies prior to completion of the merger. Significant management attention and resources will be required to integrate the two companies. Delays in this process could adversely affect the combined company's business, financial results, financial condition, and stock price following the merger. Even if the combined company were able to integrate the business operations successfully, there can be no assurance that this integration will result in the realization of the full benefits of synergies, innovation and operational efficiencies that may be possible from this integration and that these benefits will be achieved within a reasonable period of time.

**Risks Related to the Combined Company Following the Merger**

***The trading price of the combined company's common stock may be subject to significant fluctuations and volatility, and the stockholders of the combined company may be unable to resell their shares at a profit.***

While PharmAthene's common stock has an observable trading history, PharmAthene's common stock, on a post merger basis, may be expected to trade as if there had never been a public market for the combined company's common stock. The market price of the combined company's common stock could be subject to significant fluctuation following the merger. Market prices for securities of early-stage pharmaceutical, medical device, biotechnology and other life science companies have historically been particularly volatile. Some of the factors that may cause the market price of the combined company's common stock to fluctuate include:

- its ability to develop, obtain regulatory clearances or approvals for and market new and enhanced products on a timely basis;
- developments in PharmAthene's ongoing legal action against SIGA;
- changes in governmental regulations or in the status of its regulatory approvals, clearances or future applications;
- its announcements or its competitors' announcements regarding new products, product enhancements, significant contracts, acquisitions or strategic investments;
- quarterly variation in the combined company's or its competitors' results of operations;
- changes in earnings estimates or recommendations by securities analysts, if any, who cover the combined company's stock;
- failure to meet estimates or recommendation by securities analysts, if any, who cover the combined company's stock;

- changes in healthcare policy, changes in the government's emphasis on combating bioterrorism or other changes that will make it more challenging for the combined company to receive government funding;
- product liability claims or other litigation involving the combined company;
- accusations that the combined company has violated a law or regulation;
- sales of large blocks of the combined company's common stock, including sales by the combined company's executive officers, directors and significant stockholders;
- disputes or other developments with respect to intellectual property rights;
- changes in accounting principles; and
- general market conditions and other factors, including factors unrelated to the combined company's operating performance or the operating performance of its competitors.

In addition, if securities class action litigation is initiated against the combined company, it would incur substantial costs and its management's attention would be diverted from operations. All of these factors could cause the price of the combined company's common stock to decline, and you may lose some or all of your investment.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of the combined company's common stock.

***Future results of the combined company may differ materially from the unaudited pro forma financial statements presented in this proxy statement/prospectus/consent solicitation.***

The future results of the combined company may be materially different from those shown in the unaudited pro forma condensed combined financial statements presented in this proxy statement/prospectus/consent solicitation, which show only a combination of the historical results of PharmAthene and Theraclone. PharmAthene and Theraclone expect to incur significant costs associated with completion of the merger and combining the operations of the two companies. Furthermore, these costs may decrease the capital that the combined company could use for continued development of the combined company's business in the future or may cause the combined company to seek to raise new capital sooner than expected.

***The combined company plans to issue additional equity securities in the future, which may result in dilution to existing investors.***

To the extent the combined company raises additional capital by issuing equity securities, including in a debt financing where the combined company issues convertible notes or notes with warrants, the combined company's stockholders may experience substantial dilution. The combined company may, from time to time, sell common stock in one or more transactions at prices and in a manner it determines. If the combined company sells common stock, existing stockholders may be materially diluted. In addition, new investors could gain rights superior to existing stockholders, such as liquidation and other preferences. In addition, the number of shares available for future grant under PharmAthene's equity compensation plans may be increased in the future. In addition, the combined company will also have warrants outstanding to purchase shares of capital stock. The combined company's stockholders will incur dilution upon exercise of any outstanding stock options or warrants.

All of PharmAthene's outstanding shares of common stock are, and any shares that are issued in the merger will be, freely tradable without restrictions or further registration under the Securities Act of 1933, as amended, or the Securities Act, except for any shares subject to stockholder agreements with lock-up provisions executed in connection with the merger and any shares held by affiliates, as defined in Rule 144 under the Securities Act. Rule 144 defines an affiliate as a person who directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, the combined company and would include persons such as the combined company's directors and executive officers.

***The concentration of the capital stock ownership with insiders of the combined company will likely limit the ability of the stockholders of the combined company to influence corporate matters.***

Based on information available to PharmAthene as of October 4, 2013, following the merger, the executive officers, directors, five percent or greater stockholders, and their respective affiliated entities of the combined company are expected to beneficially own, in the aggregate, approximately 53.3% of the combined company's outstanding common stock. As a result, these stockholders, acting together, have control over most matters that require approval by the combined company's stockholders, including the election of directors and approval of significant corporate transactions. Corporate actions might be taken even if other stockholders oppose them. This concentration of ownership might also have the effect of delaying or preventing a corporate transaction that other stockholders may view as beneficial.

***If securities analysts do not publish research or reports about the business of the combined company, or if they publish negative evaluations, the price of the combined company's common stock could decline.***

The trading market for the combined company's common stock may be impacted by the availability or lack of research and reports that third-party industry or financial analysts publish about the combined company. There are many large, publicly traded companies active in the biopharmaceutical industry, which may mean it will be less likely that the combined company receives widespread analyst coverage. Furthermore, if one or more of the analysts who do cover the combined company downgrade its stock, its stock price would likely decline. If the combined company does not receive adequate coverage by reputable analysts that have an understanding of the combined company's business and industry, it could fail to achieve visibility in the market, which in turn could cause its stock price to decline.

***Anti-takeover provisions under Delaware law could make an acquisition of the combined company, which may be beneficial to the stockholders of the combined company, more difficult and may prevent attempts by the stockholders to replace or remove management.***

The combined company will be subject to the Delaware laws regulating corporate takeovers, which, with limited exceptions, prohibit a "target corporation" from engaging in certain "significant business transactions" for a period of five years after the share acquisition by an acquiring person, unless (i) the prohibited transaction or the acquiring person's purchase of shares was approved by a majority of the members of the target corporation's Board of Directors prior to the acquiring person's share acquisition or (ii) the prohibited transaction was both approved by the majority of the members of the target corporation's board and authorized at a stockholder meeting by at least two-thirds of the outstanding voting shares (excluding the acquiring person's shares) at or subsequent to the acquiring person's share acquisition. An "acquiring person" is defined as a person or group of persons that beneficially owns 10% or more of the voting securities of the target corporation. Such prohibited transactions include, among other things:

- certain mergers or consolidations with, dispositions of assets to, or issuances of stock to or redemptions of stock from, the acquiring person;
- termination of 5% or more of the employees of the target corporation as a result of the acquiring person's acquisition of 10% or more of the shares;
- allowing the acquiring person to receive any disproportionate benefit as a stockholder; and
- liquidating or dissolving the target corporation.

After the five-year period, certain "significant business transactions" are permitted, as long as they comply with certain "fair price" provisions of the Delaware statute or are approved by a majority of the outstanding shares other than those of which the acquiring person has beneficial ownership. A corporation may not "opt out" of this statute.

As such, these laws could prohibit or delay mergers or a change in control and may discourage attempts by other companies to acquire the combined company.

In addition, following the merger, the combined company's Certificate of Incorporation and Bylaws contain provisions, such as undesignated preferred stock, that could make it more difficult for a third party to acquire the combined company without the consent of its Board of Directors. Further, the combined

company's Bylaws require advance notice of stockholder proposals and nominations and impose restrictions on the persons who may call special stockholder meetings. These provisions may have the effect of preventing or hindering any attempts by the stockholders of the combined company to replace its Board of Directors or management.

***In the event that the combined company fails to satisfy any of the listing requirements of the NYSE MKT, its common stock may be delisted, which could affect its market price and liquidity.***

Following the merger, the combined company's common stock is expected to be listed on the NYSE MKT. For continued listing on the NYSE MKT, the combined company will be required to comply with the listing requirements, including the minimum market capitalization standard set forth in applicable NYSE MKT rules, the requirement that the combined company's shares not trade "for a substantial period of time at a low price per share" or that the combined company not dispose of its principal operating assets or discontinue a substantial portion of the combined company's operations, among other requirements. If the combined company's securities are delisted from trading on the NYSE MKT and the combined company is not able to list its securities on another exchange or to have them quoted on NASDAQ, the combined company's securities could be quoted on the OTC Bulletin Board or on the "pink sheets," and it would likely be more difficult to trade in or obtain accurate quotations as to the market price of the combined company's common stock. If this were to occur, the combined company could face significant adverse consequences including:

- a limited availability of market quotations for its securities;
- a determination that its common stock is a "penny stock" which will require brokers trading in its common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for its securities;
- a limited amount of news and analyst coverage for the combined company; and
- a decreased ability to issue additional securities, including pursuant to short-form registration statements on Form S-3 or obtain additional financing in the future.

**Risks Related to PharmAthene**

**You should consider the following factors in evaluating whether to approve the proposals described in this proxy statement/prospectus/consent solicitation. These factors should be considered in conjunction with the other information included by PharmAthene and Theraclone in this proxy statement/prospectus/consent solicitation. The risk factors relating to PharmAthene will also apply to the combined company going forward because a substantial portion of the business of the combined company will be PharmAthene's business. For purposes of this section, "Risks Related to PharmAthene," references to PharmAthene refer to PharmAthene, Inc. and its wholly owned subsidiaries PharmAthene Canada, Inc. and PharmAthene UK Limited.**

**Risks Related to PharmAthene's Financial Condition.**

***PharmAthene has a history of losses and negative cash flow, anticipate future losses and negative cash flow, and cannot provide assurances that PharmAthene will achieve profitability.***

PharmAthene has incurred significant losses since PharmAthene commenced operations. As of December 31, 2012, PharmAthene had accumulated losses of $198.6 million since its inception, and had net losses of approximately $4.9 million, $3.8 million, and $34.8 million during the last three years, respectively. PharmAthene's losses to date have resulted principally from research and development costs related to the development of PharmAthene's product candidates and general and administrative costs related to operations. Currently PharmAthene's development efforts are primarily focused on one product candidate, SparVax®. At June 30, 2013, PharmAthene had cash on hand of approximately $15.8 million.

PharmAthene expects that it will incur substantial losses for the foreseeable future as a result of increases in PharmAthene's research and development costs, including costs associated with conducting preclinical testing, clinical trials and regulatory compliance activities. If PharmAthene continues to incur losses and is not able to raise adequate funds to cover those losses, PharmAthene may be required to curtail significantly PharmAthene's development and commercialization activities. This would have a material adverse effect on PharmAthene's business, financial condition and/or results of operations.

PharmAthene's likelihood for achieving profitability will depend on numerous factors, including success in:

- completing the merger;
- refinancing of the existing credit facilities;
- obtaining a ruling from the Delaware Court of Chancery that provides for a remedy in PharmAthene's on-going litigation with SIGA;
- the timing, amount and profitability of sales of Arestvyr™ (including the timing of SIGA's recognition of revenue related thereto) if any final ruling from the Delaware Court of Chancery provides as a remedy for a cash flow to PharmAthene related to sales or profits of Arestvyr™;
- developing PharmAthene's existing products and developing and testing new product candidates;
- continuing to receive government funding and identifying new government funding opportunities;
- receiving regulatory approvals;
- carrying out PharmAthene's intellectual property strategy;
- establishing PharmAthene's competitive position;
- pursuing third-party collaborations;
- acquiring or in-licensing products; and
- manufacturing and marketing products.

Many of these factors will depend on circumstances beyond PharmAthene's control. PharmAthene cannot guarantee that it will achieve sufficient revenues for profitability. Even if PharmAthene does achieve profitability, it cannot guarantee that PharmAthene can sustain or increase profitability on a quarterly or annual basis in the future. If revenues grow more slowly than PharmAthene anticipates, or if operating expenses exceed PharmAthene's expectations or cannot be adjusted accordingly, then PharmAthene's business, results of operations, financial condition and cash flows will be materially and adversely affected. Because PharmAthene's strategy includes potential acquisitions of other businesses, acquisition expenses and any cash used to make these acquisitions will reduce PharmAthene's available cash.

Under the terms of PharmAthene's agreements with Avecia, PharmAthene is required to pay Avecia (now a subsidiary of FUJIfilm) $5 million within 90 days of entering into a multi-year funded development contract that was to be issued by BARDA under solicitation number RFP-BARDA-08-15 (or any substitution or replacement thereof) for the further development of SparVax®. RFP-BARDA-08-15 was cancelled by BARDA in December 2009. PharmAthene has received funds from BARDA and other U.S. government agencies under various development agreements between PharmAthene and BARDA. Any development contract deemed to be a substitute or replacement of RFP-BARDA-08-15 could trigger PharmAthene's obligation to make the $5 million payment.

Global economic uncertainty continues to make capital markets more volatile and is threatening to once again tighten the credit markets. As a result, there can be no assurances that PharmAthene would be successful in obtaining sufficient financing on commercially reasonable terms or at all. PharmAthene's requirements for additional capital may be substantial and will be dependent on many factors, including the success of PharmAthene's research and development efforts, PharmAthene's ability to commercialize and market products, PharmAthene's ability to successfully pursue PharmAthene's licensing and collaboration strategy, the receipt of continued government funding, competing technological and marketing developments, costs associated with the protection of PharmAthene's intellectual property and any future change in PharmAthene's business strategy.

To the extent that PharmAthene raises additional capital through the sale of securities, the issuance of those securities or shares underlying such securities would result in dilution that could be substantial to PharmAthene's stockholders. In addition, if it incurs additional debt financing, a substantial portion of

PharmAthene's operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for PharmAthene's business activities.

If adequate funds are not available, PharmAthene may be required to curtail significantly PharmAthene's development and commercialization activities. This would have a material adverse effect on PharmAthene's business, financial condition and/or results of operations.

***As a result of the ruling of the Delaware Supreme Court, PharmAthene no longer has a financial interest in Arestvyr™ and there can be no assurance that the Delaware Chancery Court will issue a remedy that provides PharmAthene with a financial interest in that product or another remedy.***

In its May 2013 decision, the Delaware Supreme Court reversed the remedy ordered by the Delaware Court of Chancery and remanded the issue of a remedy back to the trial court for reconsideration in light of the Delaware Supreme Court's opinion. There can be no assurance that the Delaware Court of Chancery Court will issue a remedy that provides PharmAthene with a financial interest in Arestvyr™ and related products, that SIGA will not appeal any subsequent decision by the Delaware Court of Chancery, or that SIGA will not be successful in any subsequent appeal. Even if the Delaware Court of Chancery does provide PharmAthene with a remedy that provides PharmAthene with a financial interest in Arestvyr™, PharmAthene may never receive any proceeds from SIGA's future sales of that product.

In addition to the risks that ordinarily accompany the development and commercialization of biodefense products, including with respect to government contracting activities (including protests filed by third parties), competition (which with respect to Arestvyr™ includes potential competing products being developed by Chimerix, Inc.), FDA and other regulatory approval and commercialization efforts, which are described elsewhere in PharmAthene's risk factors, any interest PharmAthene may have in future sales of SIGA's product Arestvyr™ and related products is subject to additional risks.

In particular, SIGA's ability to deliver product to the SNS (and potential foreign government purchasers), and the timing and profitability thereof (including the timing of SIGA's recognition of revenue related thereto), are subject to a number of significant risks and uncertainties (certain of which are outlined in SIGA's filings with the SEC) as to which PharmAthene has limited knowledge and no ability to control, mitigate or fully evaluate. PharmAthene has no first-hand knowledge of, and SIGA has not publicly disclosed, any information related to the potential margins or profitability of Arestvyr™ and related products.

***Even if the Delaware Chancery Court re-instates its prior remedy or another remedy granting PharmAthene a financial interest in Arestvyr™, the potential value of any damages that may be awarded to PharmAthene is subject to several variables, many of which are controlled by SIGA, and uncertainties, including the timing of any final decision by the courts, which preclude the current calculation of a predictable value of the SIGA litigation.***

In its May 31, 2012 judgment, the Delaware Chancery Court awarded PharmAthene the right to receive 50% of certain profits related to the sale of Arestvyr™ and related products for a specified period of time once SIGA retained the first $40 million in profits. However, as noted in the prior risk factor, although Delaware Supreme Court affirmed in May 2013 that SIGA breached contractual obligations to PharmAthene, its remand of the issue of the remedy back to the Delaware Chancery Court for reconsideration has effectively deprived PharmAthene of any current financial interest on Arestvyr™ and related products. PharmAthene cannot predict whether the Delaware Chancery Court will re-instate its prior remedy or order another remedy.

PharmAthene has taken the position in documents submitted to the courts, that its damages may be as high as $1 billion. SIGA has taken the position, in documents that it has submitted to the courts in, that it owes PharmAthene no or nominal damages. In addition, SIGA has taken post-judgment positions with respect to Arestvyr™ as to timing and costs (positions PharmAthene disputes), which PharmAthene expects SIGA may continue to take in the future, thus reducing SIGA's revenues from Arestvyr™ and related products and, correspondingly, potentially reducing any damages that would be owed to PharmAthene. PharmAthene intends to continue to vigorously pursue in court its position that, as a result of PharmAthene's successful breach of contract case against SIGA, PharmAthene deserves significant damages in its award from the Delaware Chancery Court. PharmAthene can provide no assurance that it will succeed in its litigation strategy or, as stated above, that the Delaware Chancery Court will re-instate its prior remedy or provide any remedy at all.

Even if PharmAthene is awarded a remedy by the court, PharmAthene is unable to control or predict the timing of sales of or whether or when SIGA will recognize any profits with respect to Arestvyr™ or related products. It is possible that SIGA could discontinue development, production or sales of Arestvyr™ and any related products at any time such that PharmAthene would not collect any damages.

**Risks Related to Product Development and Commercialization**

***PharmAthene has not commercialized any products or recognized any revenues from sales. All of PharmAthene's product candidates are still under development, and there can be no assurance of successful commercialization of any of PharmAthene's products.***

PharmAthene has not commercialized any product candidates or recognized any revenues from product sales. In general, PharmAthene's research and development programs are in development stages. There can be no assurances that one or more of PharmAthene's future product candidates will not fail to meet safety and efficacy standards in human testing, even if those product candidates are found to be effective in animal studies. To develop and commercialize biodefense treatment and prophylactic product candidates, PharmAthene must provide the FDA and foreign regulatory authorities with human clinical and non-clinical animal data that demonstrate adequate safety and effectiveness. To generate these data, PharmAthene will have to subject PharmAthene's product candidates to significant additional research and development efforts, including extensive non-clinical studies and clinical testing. It cannot be sure that PharmAthene's approach to drug discovery will be effective or will result in the development of any drug. Currently PharmAthene's development efforts are primarily focused on one product candidate, SparVax®. Even if PharmAthene's product candidates are successful when tested in animals, such success would not be a guarantee of the safety or effectiveness of such product candidates in humans.

Research and development efforts are time-consuming and subject to delays. Even if PharmAthene initially receives positive early-stage preclinical or clinical results, such results may not be indicative of results that could be anticipated in the later stages of drug development. Delays in obtaining results in PharmAthene's non-clinical studies and clinical testing can occur for a variety of reasons, such as slower than anticipated enrollment by volunteers in the trials, adverse events related to the products, failure to comply with Good Clinical Practices, unforeseen safety issues, unsatisfactory results in trials, perceived defects in the design of clinical trials, changes in regulatory policy as well as for reasons detailed in the section entitled "— Necessary Reliance on the Animal Rule in Conducting Trials is Time-Consuming and Expensive."

Any delay or adverse clinical event arising during any of PharmAthene's clinical trials could force PharmAthene to conduct additional clinical trials in order to obtain approval from the FDA and other regulatory bodies. PharmAthene's development costs will increase substantially if PharmAthene experiences material delays in any clinical trials or if it needs to conduct more or larger trials than planned.

If delays are significant, or if any of PharmAthene's product candidates do not prove to be safe, pure, and potent (including efficacy) or do not receive required regulatory approvals, PharmAthene may have to abandon the product candidate altogether and will be unable to recognize revenues from the sale of that product. In addition, PharmAthene's collaborative partners may not be able to conduct clinical testing or obtain necessary approvals from the FDA or other regulatory authorities for any product candidates jointly developed by PharmAthene and PharmAthene's partners. If PharmAthene fails to obtain required governmental approvals, PharmAthene and PharmAthene's collaborative partners will experience delays in, or be precluded from, marketing products developed through them or, as applicable, their research.

***If PharmAthene cannot maintain successful licensing arrangements and collaborations, enter into new licensing arrangements and collaborations, or effectively accomplish strategic acquisitions, PharmAthene's ability to develop and commercialize a diverse product portfolio could be limited and PharmAthene's ability to compete may be harmed.***

A key component of PharmAthene's business strategy is the in-licensing of compounds and products developed by other pharmaceutical and biotechnology companies or academic research laboratories. In addition, PharmAthene has entered into licensing and research and development agreements with a number of other parties and collaborators. There can be no assurances that the research and development conducted pursuant to these agreements will result in revenue generating product candidates. If PharmAthene's suppliers,

vendors, licensors, or other collaboration partners experience financial difficulties as a result of the weak economy, change in strategic direction (like the decision of PharmAthene's main CRO vendor on PharmAthene's rBChE program to cease its research and development operations, which caused PharmAthene to locate a replacement vendor on an expedited basis), or if they are acquired as part of the current wave of consolidations in the pharmaceutical industry (such as, for example, with the acquisitions of Medarex by Bristol-Myers Squibb and Diosynth Biotechnologies, Inc.'s parent company by Merck & Co., Inc. in 2009 and of Avecia's CMO subsidiary (Avecia Biologics) by Merck in 2010 and the subsequent acquisition of these two entities by FUJIfilm in 2011), their priorities or PharmAthene's working relationship with them might change. As a result, they might shift resources away from the research, development and/or manufacturing efforts intended to benefit PharmAthene's products, which could lead to significant delays in PharmAthene's development programs and potential future sales. PharmAthene's current licensing, research and development, and supply agreements may expire and may not be renewable or could be terminated if PharmAthene does not meet PharmAthene's obligations.

If PharmAthene is not able to identify new licensing opportunities or enter into other licensing arrangements on acceptable terms, PharmAthene may be unable to develop a diverse portfolio of products. For PharmAthene's future collaboration efforts to be successful, it must first identify partners whose capabilities complement and integrate well with PharmAthene. PharmAthene faces, and will continue to face, significant competition in seeking appropriate collaborators. Collaboration arrangements are complex and time consuming to negotiate, document and implement. PharmAthene may not be successful in its efforts to establish and implement collaborations or other similar arrangements. The terms of any collaboration or other arrangements that PharmAthene establishes may not be favorable to it. Furthermore, technologies to which it gains access may prove ineffective, become obsolete, or unsafe or PharmAthene's partners may prove difficult to work with or less skilled than PharmAthene originally expected. In addition, any past collaborative successes are no indication of potential future success.

***Necessary Reliance on the Animal Rule in Conducting Trials is Time-Consuming and Expensive.***

As further described below under the section entitled "PHARMATHENE'S BUSINESS — Business Concept and Strategy," to obtain FDA approval for PharmAthene's biological warfare defense products under current FDA regulations, PharmAthene is required to utilize animal model studies for efficacy and provide animal and human safety data under the Animal Rule. For many of the biological and chemical threats, animal models are not yet available, and as such PharmAthene is developing, or will have to develop, appropriate animal models, which is a time-consuming and expensive research effort. Further, PharmAthene may not be able to sufficiently demonstrate the animal correlation to the satisfaction of the FDA, as these corollaries are difficult to establish and are often unclear. The FDA may decide that PharmAthene's data are insufficient for approval and require additional non-clinical, clinical or other studies, refuse to approve PharmAthene's products, or place restrictions on PharmAthene's ability to commercialize those products. Further, other countries have not, at this time, established criteria for review and approval of these types of products outside their normal review process, i.e., there is no Animal Rule equivalent, and consequently there can be no assurance that PharmAthene will be able to make a submission for marketing approval in foreign countries based on such animal data.

Additionally, few facilities in the United States and internationally have the capability to test animals with anthrax, nerve agents, or other lethal biotoxins or chemical agents or otherwise assist PharmAthene in qualifying the requisite animal models. PharmAthene has to compete with other biodefense companies for access to this limited pool of highly specialized resources. PharmAthene therefore may not be able to secure contracts to conduct the testing in a predictable timeframe or at all.

***Even if it succeeds in commercializing PharmAthene's product candidates, they may not become profitable and manufacturing problems or side effects discovered at later stages can further increase costs of commercialization.***

PharmAthene cannot assure you that any drugs resulting from its research and development efforts will become commercially available. Even if PharmAthene succeeds in developing and commercializing its product candidates, they may never generate sufficient or sustainable revenues to enable PharmAthene to be profitable.

Even if effective, a product that reaches market may be subject to additional clinical trials, changes to or re-approvals of PharmAthene's manufacturing facilities or a change in labeling if PharmAthene or others identify side effects or manufacturing problems after a product is on the market. This could harm sales of the affected products and could increase the cost and expenses of commercializing and marketing them. It could also lead to the suspension or revocation of regulatory approval for the products.

PharmAthene and PharmAthene's CMOs will also be required to comply with the applicable FDA current Good Manufacturing Practice, or cGMP, regulations. These regulations include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Manufacturing facilities are subject to inspection by the FDA. These facilities must be approved to supply licensed products to the commercial marketplace. PharmAthene and its contract manufacturers may not be able to comply with the applicable cGMP requirements and other FDA regulatory requirements. Should PharmAthene or its contract manufacturers fail to comply, it could be subject to fines or other sanctions or could be precluded from marketing PharmAthene's products.

***PharmAthene may become subject to product liability claims, which could reduce demand for its product candidates or result in damages that exceed its insurance coverage.***

PharmAthene faces an inherent risk of exposure to product liability suits in connection with its product candidates being tested in clinical trials or sold commercially. PharmAthene may become subject to a product liability suit if any product it develops causes injury, or if treated individuals subsequently become infected or suffer adverse effects from PharmAthene's products. Regardless of merit or eventual outcome, product liability claims may result in decreased demand for a product, injury to PharmAthene's reputation, withdrawal of clinical trial volunteers, and loss of revenues.

In addition, if a product liability claim is brought against PharmAthene, the cost of defending the claim could be significant and any adverse determination may result in liabilities in excess of PharmAthene's insurance coverage. Although PharmAthene's anthrax countermeasures are covered under the general immunity provisions of the U.S. Public Readiness and Emergency Preparedness Act, or the Public Readiness Act, there can be no assurance that the U.S. Secretary of Health and Human Services will make other declarations in the future that cover any of its other product candidates or that the U.S. Congress will not act in the future to reduce coverage under the Public Readiness Act or to repeal it altogether. For further discussion of that act, see "— Legislation limiting or restricting liability for medical products used to fight bioterrorism is new, and PharmAthene cannot be certain that any such protection will apply to its products or if applied what the scope of any such coverage will be." Additionally, PharmAthene is considering applying for indemnification under the U.S. Support Anti-terrorism by Fostering Effective Technologies (SAFETY) Act of 2002 which preempts and modifies tort laws so as to limit the claims and damages potentially faced by companies who provide certain "qualified" anti-terrorism products. However, PharmAthene cannot be certain that it will be able to obtain or maintain coverage under the SAFETY Act or adequate insurance coverage on acceptable terms, if at all.

***If PharmAthene cannot effectively accomplish strategic acquisitions, generally, its ability to develop and commercialize a diverse product portfolio could be limited and its ability to compete may be harmed.***

PharmAthene may pursue other strategic acquisitions to further its development and commercialization efforts, which could result in its incurring significant out of pocket costs as well as expending management time and those of other employees. To achieve the anticipated benefits of an acquisition, PharmAthene must integrate the acquired company's business, technology and employees in an efficient and effective manner. The successful combination of companies in a rapidly changing biodefense industry is generally more difficult to accomplish than in other industries. As with the proposed merger, the combination of two companies requires, among other things, integration of the companies' respective technologies and research and development efforts. PharmAthene cannot assure you that any integration will be accomplished smoothly or successfully. The difficulties of integration are increased by the need to coordinate geographically separated organizations and address possible differences in corporate cultures and management philosophies. The integration of operations and systems will require the dedication of management resources that may temporarily distract attention from the day-to-day operations of the combined companies. The business of the combined companies may also be disrupted by employee retention uncertainty and lack of focus during integration. The inability of

management to integrate successfully the operations of the two companies, in particular, to integrate and retain key scientific personnel, or the inability to successfully integrate technology platforms, could have a material adverse effect on PharmAthene's business, results of operations and financial condition.

**Risks Related to Its Dependence on U.S. Government Contracts**

***All of PharmAthene's immediately foreseeable future revenues are contingent upon grants and contracts from the U.S. government and it may not achieve sufficient revenues from these agreements to attain profitability.***

For the foreseeable future, PharmAthene believes its main customer will be the U.S. government. Substantially all of PharmAthene's revenues to date have been derived from grants and U.S. government contracts. There can be no assurances that existing U.S. government contracts will be renewed or that PharmAthene can enter into new contracts or receive new grants to supply the United States or other governments with PharmAthene's products. The process of obtaining government contracts is lengthy and uncertain.

If the U.S. government makes significant contract awards for the supply to the U.S. strategic national stockpile, to PharmAthene's competitors, rather than to PharmAthene, PharmAthene's business will be harmed and it is unlikely that it will ultimately be able to supply that particular treatment or product to foreign governments or other third parties. Further, changes in U.S. government budgets and agendas, funding strategies, cost overruns in PharmAthene's programs, or advances by its competitors, may result in changes in the timing of funding for, a decreased and de-prioritized emphasis on, or termination of, U.S. government contracts that support the development and/or procurement of the biodefense products PharmAthene is developing. For example, while RFP-BARDA-08-15 for an rPA-based anthrax vaccine for the SNS initially indicated that the U.S. government would make an award by September 26, 2008, the award was delayed multiple times and ultimately canceled in December 2009.

Funding is subject to U.S. Congressional appropriations generally made on an annual basis even for multi-year contracts. More generally, due to the ongoing economic uncertainty, the U.S. government may reduce or delay spending in the biodefense field or eliminate funding of certain programs altogether, which could decrease the likelihood of future government contract awards or that the government would procure products from PharmAthene. Future funding levels for two of PharmAthene's key government customers, BARDA and DoD, for the advanced development and procurement of medical countermeasures are uncertain, and may be subject to budget cuts as the U.S. Congress and the President look to reduce the nation's budget deficit.

For example, due to DoD budget constraints and concerns about potential duration of protection with the current route of Protexia® administration, the DoD did not extend PharmAthene's September 2006 contract for Protexia®, which contract expired on December 31, 2010. As a result of DoD's decision not to continue funding Protexia® development, it closed down its Protexia®-related operations. PharmAthene incurred wind-down costs in the fourth quarter of 2010 and approximately $0.5 million in 2011, for which it did not get reimbursed by the government. PharmAthene also wrote down the net book value of its Protexia® -related assets recognizing approximately $4.6 million of impairment charges for the year ended December 31, 2010.

The U.S. government deficit and budget crisis has created increasing pressure to reduce government spending. In August 2011, President Obama signed into law the Budget Control Act of 2011, or the Budget Control Act, which increased the U.S. government's debt ceiling and enacted 10-year discretionary spending caps expected to generate substantial savings for the U.S. government. The Budget Control Act also established a joint bipartisan committee of Congress responsible for identifying at least $1.2 trillion in additional savings by November 2011. The joint committee did not meet the deadline for proposing recommended legislation and Congress missed a related deadline in January 2013. Under the Budget Control Act, additional automatic spending cuts, referred to as sequestration totaling $1.2 trillion (subsequently adjusted downward to approximately $1.0 trillion) over nine years would be triggered. These discretionary spending cuts are expected to be evenly split between defense and non-defense areas.

On March 1, 2013, the sequestration became effective and the law required the President to issue a sequestration order cancelling $85 billion in budgetary resources across the federal government for the

government fiscal year, which ends on September 30, 2013. The Office of Management and Budget calculated that, over the course of the government fiscal year, the sequestration required a 7.8 percent reduction in non-exempt defense discretionary spending and a 5.0 percent reduction in non-exempt nondefense discretionary spending. The sequestration also required reductions of 2.0 percent to Medicare, 5.1 percent to other non-exempt nondefense mandatory programs, and 7.9 percent to non-exempt defense mandatory programs. Because these cuts had to be achieved over only 7 months instead of 12, the effective percentage reductions were approximately 13 percent for non-exempt defense programs and 9 percent for non-exempt nondefense programs.

As of December 31, 2012, of the total $5.6 billion allotted under Project BioShield in 2004, over $2.6 billion in procurement contracts had been awarded and approximately $2.3 billion had been transferred out of the Project BioShield Special Reserve fund, or SRF, for non-procurement related activities. Remaining funds in the SRF were approximately $500 million as of December 31, 2012. It is expected that BARDA, which administers the SRF, obligated these remaining funds as of the end of the fiscal year 2013 (i.e., September 30, 2013). Sequestration was applied to fiscal year 2013 funding only. As BARDA was funded through a transfer of the SRF advanced appropriation, and not fiscal year 2013 funds, its funding was not impacted.

The Pandemic and All Hazards Preparedness Act Reauthorization, or PAHPA, signed into law in March 2013, authorized $2.8 billion in funding for the SRF for fiscal years 2014-2018. These funds are for the procurement of medical countermeasures. PAHPA also authorized $415 million in funding to BARDA for advanced development activities. However, actual funding for BARDA is dependent on annual congressional appropriations. Currently, Congress has not passed appropriation legislation for fiscal year 2014 and, until Congress reaches an agreement, it is premature to predict future funding to BARDA. Until Congress reaches an agreement on the budget for fiscal year 2014, the amount and nature of future federal budget spending will be uncertain. Potential reductions in funding could severely limit PharmAthene's ability to maintain, renew or enter into new contracts with respect to its business generally and therefore materially adversely impact PharmAthene's business.

PharmAthene's current development contract for Valortim® with NIAID expired January 31, 2012. There can be no assurance it will be successful in obtaining additional financial support for this program.

***U.S. government agencies have special contracting requirements that give them the ability to unilaterally control PharmAthene's contracts.***

U.S. government contracts typically contain unilateral termination provisions for the government and are subject to audit and modification by the government at its sole discretion, which will subject PharmAthene to additional risks. These risks include the ability of the U.S. government unilaterally to:

- suspend or prevent PharmAthene for a set period of time from receiving new contracts or extending existing contracts based on violations or suspected violations of laws or regulations;
- terminate PharmAthene's contracts, including for poor performance or if funds become unavailable or are not provided to the applicable governmental agency;
- reduce the scope and value of PharmAthene's contracts and/or revise the timing for work to be performed;
- audit and object to PharmAthene's contract-related costs and fees, including allocated indirect costs;
- control and potentially prohibit the export of PharmAthene's products;
- claim rights to products, including intellectual property, developed under the contract;
- change certain terms and conditions in PharmAthene's contracts; and
- cancel outstanding RFP solicitations (as was the case with RFP-BARDA-08-15) or BAAs.

The U.S. government will be able to terminate any of its contracts with PharmAthene either for its convenience or if PharmAthene defaults by failing to perform in accordance with the contract schedule and terms. Termination-for-convenience provisions generally enable PharmAthene to recover only its costs incurred or committed, settlement expenses, and profit on the work completed prior to termination.

Termination-for-default provisions do not permit these recoveries and would make PharmAthene liable for excess costs incurred by the U.S. government in procuring undelivered items from another source.

The U.S. government may reduce or delay spending in the biodefense field or eliminate funding of certain programs altogether, which could decrease the likelihood of future government contract awards, the likelihood that the government will exercise its right to extend any of its existing contracts with PharmAthene and/or the likelihood that the government would procure products from PharmAthene.

***The U.S. government's determination to award any contracts may be challenged by an interested party, such as another bidder, at the GAO or in federal court. If such a challenge is successful, a contract award may be re-evaluated and terminated.***

The laws and regulations governing the procurement of goods and services by the U.S. government provide procedures by which other bidders and other interested parties may challenge the award of a government contract. If PharmAthene is awarded a government contract, such challenges or protests could be filed even if there are not any valid legal grounds on which to base the protest. If any such protests are filed, the government agency may decide, and in certain circumstances will be statutorily required, to suspend PharmAthene's performance under the contract while such protests are being considered by the GAO or the applicable federal court, thus potentially delaying delivery of goods and services and payment. In addition, PharmAthene could be forced to expend considerable funds to defend any potential award. If a protest is successful, the government may be ordered to terminate PharmAthene's contract and re-evaluate bids. The government could even be directed to award a potential contract to one of the other bidders.

For example, in March 2010, a third-party filed a bid protest with the GAO challenging the February 2010 decision of the DHHS to modify its existing research and development contract with PharmAthene for the development of SparVax®. In March 2010 DHHS suspended performance under the modification pursuant to the automatic stay provisions of the FAR, pending a decision by the GAO on the protest. While the bid protest was ultimately denied, and the related DHHS "stop work" order canceled in June 2010, the protest contributed to a reduction in revenues and cash and cash equivalents over the period that work could not be performed under the modification. In addition, PharmAthene incurred unexpected general and administrative expenses to intervene in the protest. In October 2010 a losing bidder filed a successful protest with the small business administration claiming that SIGA did not qualify as a small business entitled to a contract award under RFP-BARDA-09-35 for a smallpox antiviral. When the government subsequently issued a contract to SIGA in May 2011 without the small business requirement, this same losing bidder filed a second protest, this time with the GAO. While this protest was withdrawn, in exchange for dropping the protest, the government agreed to remove an option from the contract permitting the government to purchase up to 12 million additional courses of therapy of Arestvyr™ beyond the base purchase of 1.7 million courses of therapy.

In addition, as a result of the partial U.S. Federal government shutdown from October 1 through October 16, 2013, work was temporarily suspended under PharmAthene's development contract for SparVax®. Consequently, PharmAthene's revenues under this contract for the fourth quarter of 2013 may be lower than they otherwise could have been.

***PharmAthene's business is subject to audit by the U.S. government, and a negative audit could adversely affect PharmAthene's business.***

U.S. government agencies such as the Defense Contract Audit Agency, or the DCAA, routinely audit and investigate government contractors. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards.

The DCAA also reviews the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management information systems. Any costs found to be improperly allocated to a specific contract will not be reimbursed, while such costs already reimbursed must be refunded. If an audit uncovers improper or illegal activities, PharmAthene may be subject to civil and criminal penalties and administrative sanctions, including:

- termination of contracts;
- forfeiture of profits;

- suspension of payments;
- fines; and
- suspension or prohibition from conducting business with the U.S. government.

In addition, PharmAthene could suffer serious reputational harm if allegations of impropriety were made against it.

***Laws and regulations affecting government contracts make it more costly and difficult for PharmAthene to successfully conduct its business.***

PharmAthene must comply with numerous laws and regulations relating to the formation, administration and performance of government contracts, which can make it more difficult for PharmAthene to retain its rights under these contracts. These laws and regulations affect how it conducts business with government agencies. Among the most significant government contracting regulations that affect PharmAthene's business are:

- the Federal Acquisition Regulation, or FAR, and agency-specific regulations supplemental to the Federal Acquisition Regulation, which comprehensively regulate the procurement, formation, administration and performance of government contracts;
- the business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and incorporate other requirements such as the Anti-Kickback Act, the Procurement Integrity Act, the False Claims Act and Foreign Corrupt Practices Act;
- export and import control laws and regulations; and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

Foreign governments typically also have laws and regulations governing contracts with their respective agencies. These foreign laws and regulations affect how PharmAthene and PharmAthene's customers conduct business and, in some instances, impose added costs on PharmAthene's business. Any changes in applicable laws and regulations could restrict PharmAthene's ability to maintain its existing contracts and obtain new contracts, which could limit PharmAthene's ability to conduct PharmAthene's business and materially adversely affect PharmAthene's revenues and results of operations.

**Risks Related to Dependence on or Competition From Third Parties**

***Because PharmAthene depends on clinical research centers and other contractors for clinical and non-clinical testing, including testing under the Animal Rule, and for certain research and development activities, the results of its clinical trial, non-clinical animal efficacy studies, and research and development activities are largely beyond PharmAthene's control.***

The nature of clinical trials and PharmAthene's business strategy of outsourcing substantially all of PharmAthene's research and development and manufacturing work require that it relies on clinical research centers and other contractors to assist PharmAthene with research and development, clinical and non-clinical testing (including animal efficacy studies under the Animal Rule), patient enrollment, manufacturing and other activities. As a result, its success depends largely on the success of these third parties in performing their responsibilities. Although PharmAthene prequalify PharmAthene's contractors and believe that they are fully capable of performing their contractual obligations, it cannot directly control the adequacy and timeliness of the resources and expertise that they apply to these activities. Furthermore, it has to compete with other biodefense and biopharmaceutical companies for access to this limited pool of highly specialized resources. If PharmAthene's contractors do not perform their obligations in an adequate and timely manner or PharmAthene is unable to enter into contracts with them because of prior commitments to PharmAthene's competitors, the pace of clinical or non-clinical development, regulatory approval and commercialization of its product candidates could be significantly delayed and PharmAthene's prospects could be adversely affected.

***PharmAthene depends on third parties to manufacture, package and distribute compounds for its product candidates and key components for its product candidates. The failure of these third parties to provide their services or to perform them successfully could harm PharmAthene's business.***

PharmAthene does not have any of its own manufacturing facilities. PharmAthene has therefore utilized, and intend to continue utilizing, third parties to manufacture, package and distribute its product candidates and key components of PharmAthene's product candidates. Any material disruption in manufacturing (i.e. due to third party capacity or availability limitations) could cause a delay in its development programs and potential future sales. Furthermore, certain compounds, media, or other raw materials used to manufacture its drug candidates are available from any one or a limited number of sources. Any delays or difficulties in obtaining key components for its product candidates or in manufacturing, packaging or distributing its product candidates could delay clinical trials and further development of these potential products. Additionally, the third parties PharmAthene rely on for manufacturing and packaging are subject to regulatory review, and any regulatory compliance problems with these third parties could significantly delay or disrupt PharmAthene's commercialization activities.

Finally, third-party manufacturers, suppliers and distributors, like most companies, have been adversely affected by the credit crisis and weakening of the global economy and as such may be more susceptible to being acquired as part of the current wave of consolidations in the pharmaceutical industry. It has, for example, become challenging for companies to secure debt capital to fund their operations as financial institutions have significantly curtailed their lending activities. If its third-party suppliers continue to experience financial difficulties as a result of weak demand for their products or for other reasons and are unable to obtain the capital necessary to continue their present level of operations or are acquired by others, they may have to reduce their activities and/or their priorities or PharmAthene's working relationship with them might change. A material deterioration in their ability or willingness to meet their obligations to PharmAthene could cause a delay in its development programs and potential future sales and jeopardize PharmAthene's ability to meet its obligations under PharmAthene's contracts with the government or other third parties.

***PharmAthene faces, and likely will continue to face, competition from companies with greater financial, personnel and research and development resources. PharmAthene's commercial opportunities will be reduced or eliminated if PharmAthene's competitors are more successful in the development and marketing of their products.***

The biopharmaceutical industry is characterized by rapid and significant technological change. PharmAthene's success will depend on its ability to develop and apply its technologies in the design and development of its product candidates and to establish and maintain a market for its product candidates. There are many organizations, both public and private, including major pharmaceutical and chemical companies, specialized biotechnology firms, universities and other research institutions engaged in developing pharmaceutical and biotechnology products. Many of these organizations have substantially greater financial, technical, intellectual property, research and development, and human resources than PharmAthene has. Competitors may develop products or other technologies that are more effective than any that PharmAthene is developing or may obtain FDA approval for products more rapidly. For example, the U.S. government selected a plague vaccine product candidate from a competitor for advanced development funding, causing PharmAthene to wind down activities related to the development of its RypVax™ product candidate in 2010.

If PharmAthene commences commercial sales of products, it still must compete in the manufacturing and marketing of such products, areas in which PharmAthene has limited experience. Many of these organizations also have manufacturing facilities and established marketing capabilities that would enable such companies to market competing products through existing channels of distribution. PharmAthene's commercial opportunities will be reduced or eliminated if PharmAthene's competitors develop and market products that:

- are more effective;
- have fewer or less severe adverse side effects;
- are more adaptable to various modes of dosing;

- obtain orphan drug exclusivity that blocks the approval of PharmAthene's application for seven years;
- are easier to administer; or
- are less expensive than the products or product candidates that PharmAthene is, or in the future will be, developing.

While the regulatory climate for generic versions of biological products approved under a Biologics License Application, or a BLA, in the United States remains uncertain, and currently there is no formalized mechanism by which the FDA can approve a generic version of an approved biological product, Federal legislation has been introduced to establish a legal pathway for the approval of generic versions of approved biological products. If enacted, the legislation may impact the revenue projections for PharmAthene's products.

Even if PharmAthene is successful in developing effective products, and obtains FDA and other regulatory approvals necessary for commercializing them, PharmAthene's products may not compete effectively with other successful products. PharmAthene's competitors may succeed in developing and marketing products either that are more effective than those that it may develop, alone or with PharmAthene's collaborators, making PharmAthene's products obsolete, or that are marketed before any products that it develops are marketed.

**Risks Related to Political and Social Factors**

***Political or social factors may delay or impair PharmAthene's ability to market its products and its business may be materially adversely affected.***

Products developed to treat diseases caused by, or to combat the threat of, bioterrorism will be subject to changing political and social environments. The political and social responses to bioterrorism have been unpredictable. Political or social pressures may delay or cause resistance to bringing PharmAthene's products to market or limit pricing of PharmAthene's products, which would harm PharmAthene's business.

**Risks Related to Intellectual Property**

***PharmAthene's commercial success will be affected significantly by its ability (i) to obtain and maintain protection for its proprietary technology and that of its licensors and collaborators and (ii) not to infringe on patents and proprietary rights of third parties.***

Issues surrounding patents of biotechnology firms often involve complex legal and factual questions, and, therefore, validity and enforceability cannot be predicted with certainty. To date, no consistent policy has emerged regarding the breadth of claims allowed in biotechnology patents. PharmAthene currently has five pending U.S. patent applications, and have a limited number of foreign patents and pending international and foreign patents applications. In addition, PharmAthene has rights under numerous other patents and patent applications pursuant to exclusive and non-exclusive license arrangements with licensors and collaborators. However, there can be no assurance that patent applications owned or licensed by PharmAthene will result in patents being issued or that the patents, whether existing or issued in the future, will afford protection against competitors with similar technology. Any conflicts resulting from third-party patent applications and patents could significantly reduce the coverage of the patents owned, optioned by or licensed to PharmAthene or its collaborators and limit its ability or that of its collaborators to obtain meaningful patent protection.

Further, PharmAthene's commercial success will depend significantly on its ability to operate without infringing the patents and proprietary rights of third parties. PharmAthene is aware of one U.S. patent covering recombinant production of an antibody and a license may be required under such patent with respect to Valortim®, which is a monoclonal antibody and uses recombinant production technologies. Although the patent owner has granted licenses under such patent, PharmAthene cannot provide any assurances that it will be able to obtain such a license or that the terms thereof will be reasonable. If it does not obtain such a license and if a legal action based on such patent was to be brought against PharmAthene or its distributors, licensees or collaborators, PharmAthene cannot provide any assurances that it or its distributors, licensees or collaborators would prevail or that it has sufficient funds or resources to defend such claims.

The costs associated with establishing the validity of patents, of defending against patent infringement claims of others and of asserting infringement claims against others is expensive and time consuming, even if the ultimate outcome is favorable. An outcome of any patent prosecution or litigation that is unfavorable to it or one of its licensors or collaborators may have a material adverse effect on PharmAthene. The expense of a protracted infringement suit, even if ultimately favorable, would also have a material adverse effect on PharmAthene.

It furthermore relies upon trade secrets protection for PharmAthene's confidential and proprietary information. PharmAthene has taken measures to protect PharmAthene's proprietary information; however, these measures may not provide adequate protection to PharmAthene. PharmAthene has sought to protect PharmAthene's proprietary information by entering into confidentiality agreements with employees, collaborators and consultants. Nevertheless, employees, collaborators or consultants may still disclose its proprietary information, and it may not be able to meaningfully protect PharmAthene's trade secrets. In addition, others may independently develop substantially equivalent proprietary information or techniques or otherwise gain access to its trade secrets.

**Risks Related to Regulatory Approvals and Legislation**

***PharmAthene's use of hazardous materials and chemicals requires it to comply with regulatory requirements which may result in significant costs and expose it to potential liabilities.***

PharmAthene's research and development involves the controlled use of hazardous materials and chemicals. PharmAthene is subject to federal, state, local and foreign laws governing the use, manufacture, storage, handling and disposal of such materials. PharmAthene will not be able to eliminate the risk of accidental contamination or injury from these materials. In the event of such an accident, it could be forced to pay significant damages or fines, and these damages could exceed PharmAthene's resources and any applicable insurance coverage. In addition, it may be required to incur significant costs to comply with regulatory requirements in the future.

***Legislation limiting or restricting liability for medical products used to fight bioterrorism is new, and it cannot be certain that any such protection will apply to PharmAthene's products or if applied what the scope of any such coverage will be.***

The U.S. Public Readiness Act was signed into law in December 2005 and creates general immunity for manufacturers of countermeasures, including security countermeasures (as defined in Section 319F-2(c)(1)(B) of that act), when the U.S. Secretary of Health and Human Services issues a declaration for their manufacture, administration or use. The declaration is meant to provide general immunity from all claims under state or federal law for loss arising out of the administration or use of a covered countermeasure. Manufacturers are excluded from this protection in cases of willful misconduct. Although PharmAthene's anthrax countermeasures have been covered under the general immunity provisions of the Public Readiness Act since October 1, 2008, there can be no assurance that the Secretary of Health and Human Services will make other declarations in the future that would cover any of PharmAthene's other product candidates or that the U.S. Congress will not act in the future to reduce coverage under the Public Readiness Act or to repeal it altogether.

Upon a declaration by the Secretary of Health and Human Services, a compensation fund would be created to provide "timely, uniform, and adequate compensation to eligible individuals for covered injuries directly caused by the administration or use of a covered countermeasure." The "covered injuries" to which the program applies are defined as serious physical injuries or death. Individuals are permitted to bring a willful misconduct action against a manufacturer only after they have exhausted their remedies under the compensation program. A willful misconduct action could be brought against PharmAthene if an individual(s) has exhausted their remedies under the compensation program which thereby could expose PharmAthene to liability. Furthermore, there is no assurance that the Secretary of Health and Human Services will issue under this act a declaration to establish a compensation fund. PharmAthene may also become subject to standard product liability suits and other third party claims if products it develops which fall outside of the Public Readiness Act cause injury or if treated individuals subsequently become infected or otherwise suffer adverse effects from such products.

***PharmAthene is required to comply with certain export control laws, which may limit its ability to sell its products to non-U.S. persons and may subject PharmAthene to regulatory requirements that may delay or limit PharmAthene's ability to develop and commercialize its products.***

PharmAthene's product candidates are subject to the Export Administration Regulations, or EAR, administered by the U.S. Department of Commerce and are, in certain instances (such as aspects of PharmAthene's nerve agent countermeasure product candidates) subject to the International Traffic in Arms Regulations, or ITAR, administered by the U.S. Department of State. EAR restricts the export of dual-use products and technical data to certain countries, while ITAR restricts the export of defense products, technical data and defense services. The U.S. government agencies responsible for administering EAR and ITAR have significant discretion in the interpretation and enforcement of these regulations. Failure to comply with these regulations can result in criminal and civil penalties and may harm PharmAthene's ability to enter into contracts with the U.S. government. It is also possible that these regulations could adversely affect PharmAthene's ability to sell its products to non-U.S. customers.

**Risks Related to Personnel**

***PharmAthene depends on its key technical and management personnel, and the loss of these personnel could impair the development of its products.***

PharmAthene rely, and will continue to rely, on PharmAthene's key management and scientific staff, all of whom are employed at-will. The loss of key personnel or the failure to recruit necessary additional qualified personnel could have a material adverse effect on PharmAthene's business and results of operations. There is intense competition from other companies, research and academic institutions and other organizations for qualified personnel. Furthermore uncertainties regarding the proposed merger can lead employees who are otherwise satisfied working for PharmAthene to leave the organization for other opportunities. PharmAthene may not be able to continue to attract and retain the qualified personnel necessary for the development of PharmAthene's business. If PharmAthene does not succeed in retaining and recruiting necessary personnel or developing this expertise, its business could suffer significantly.

***Biotechnology companies often become subject to claims that they or their employees wrongfully used or disclosed alleged trade secrets of the employees' former employers. Such litigation could result in substantial costs and be a distraction to PharmAthene's management.***

As is commonplace in the biotechnology industry, PharmAthene employs individuals who were previously employed at other biotechnology or pharmaceutical companies, including at competitors or potential competitors. Although no claims against PharmAthene are currently pending, it may be subject to claims that PharmAthene or its employees have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. Even if PharmAthene is successful in defending against these claims, litigation could result in substantial costs and distract management.

**Risks Related to PharmAthene's Common Stock and Under Its Loan Agreement**

***If it does not meet the continued listing standards of the NYSE MKT PharmAthene's common stock could be delisted from trading, which could limit investors' ability to make transactions in PharmAthene's common stock and subject PharmAthene to additional trading restrictions.***

PharmAthene's common stock is listed on the NYSE MKT, a national securities exchange, which imposes continued listing requirements with respect to listed shares. For a description of the related risks, please see "RISK FACTORS — Risks Related to the Combined Company Following the Merger — In the event that the combined company fails to satisfy any of the listing requirements of the NYSE MKT, its common stock may be delisted, which could affect its market price and liquidity."

***PharmAthene's stock price is volatile.***

The market price of PharmAthene's common stock has been, and is expected to continue to be, subject to significant volatility. The value of PharmAthene's common stock may decline regardless of its operating performance or prospects. Factors that may affect PharmAthene's market price include:

- PharmAthene's perceived prospects, including but not limited to any developments in the timing and outcome of the SIGA litigation and changes in U.S. government funding of projects in which PharmAthene participates;
- variations in PharmAthene's operating results and whether it has achieved key business targets;
- changes in, or PharmAthene's failure to meet, revenue estimates;
- changes in securities analysts' buy/sell recommendations;
- differences between PharmAthene's reported results and those expected by investors and securities analysts;
- announcements of new contracts by PharmAthene or its competitors;
- reaction to any acquisitions, joint ventures or strategic investments announced by PharmAthene or its competitors; and
- general economic, political or stock market conditions.

***Shares that PharmAthene may issue in the future in connection with certain capital-raising transactions and shares available for future issuance upon exercise of warrants and options could dilute PharmAthene's stockholders and depress the market price of its common stock.***

The issuance of PharmAthene's securities in the future may depress the market price of PharmAthene's stock, and any such financing(s) will dilute PharmAthene's existing stockholders.

In addition, as of October 4, 2013, PharmAthene had outstanding options to purchase approximately 6.0 million shares of common stock (not including restricted shares). Additional shares are reserved for issuance under PharmAthene's 2007 Long-Term Incentive Compensation Plan. PharmAthene's stock options are generally exercisable for ten years, with a significant portion exercisable either immediately or beginning one year after the date of the grant.

PharmAthene filed two registration statements on Form S-3 (File Nos. 333-161587 and 333-176607) covering the resale of shares issued upon conversion of PharmAthene's 10% convertible notes and issuable upon exercise of related warrants by certain of PharmAthene's affiliates, among other security holders. Both registration statements have been declared effective. PharmAthene is obligated under the terms of the related registration rights agreement to keep these registration statements effective. The sale by these security holders of their shares pursuant to the registration statement or otherwise could depress the market price of its common stock.

Finally, as of October 4, 2013, PharmAthene had issued and outstanding additional warrants to purchase up to approximately 5.6 million shares of common stock.

The issuance or even the expected issuance of a large number of shares of PharmAthene's common stock upon conversion or exercise of the securities described above could depress the market price of its stock and the issuance of such shares will dilute the stock ownership of its existing stockholders. Shares that PharmAthene may issue in the future in connection with certain capital-raising transactions and shares available for future issuance upon exercise of warrants and options could dilute its stockholders and depress the market price of its common stock.

***PharmAthene can give no assurances that it will ever pay dividends.***

PharmAthene has not paid any dividends on its common stock in 2013, 2012, 2011, or 2010 and does not intend to declare any dividends in the foreseeable future. While subject to periodic review, PharmAthene's current policy is to retain all earnings, if any, primarily to finance its future growth. The current loan and security agreement with GE Capital, or the GE Loan Agreement, specifically restricts the declaration or payment of any dividends. PharmAthene makes no assurances that it will ever pay dividends, cash or otherwise. Whether PharmAthene pays any dividends in the future will depend on its financial condition, results of operations, and other factors that it will consider.

***PharmAthene's fully-secured loan agreement with GE Capital is subject to acceleration in specified circumstances, including this merger, which may result in GE Capital taking possession and disposing of any collateral.***

In the first quarter 2012, PharmAthene closed on a senior fully-secured debt facility with GE Capital providing for a $2.5 million term loan and a revolving line of credit of up to $5 million based on a percentage of PharmAthene's outstanding qualified accounts receivable. PharmAthene's obligations under the GE Loan Agreement are secured by a security interest in substantially all of PharmAthene's assets. While the security interest does not, except in limited circumstances, cover PharmAthene's intellectual property, it does cover any proceeds to PharmAthene from the use of intellectual property. The GE Loan Agreement contains customary representations, warranties and covenants, including limitations on acquisitions, dispositions, incurrence of indebtedness and the granting of security interests. Upon the occurrence and during the continuance of any event of default, GE Capital may, and at the written request of the requisite lenders shall, terminate the commitments under the facilities and declare any or all of the obligations to be immediately due and payable, without demand or notice to PharmAthene. The completion of this merger and related transactions would, in the absence of a waiver, constitute an event of default under the loan agreement and permit GE Capital to terminate the commitments under the facilities and declare any or all of the obligations to be immediately due and payable, without demand or notice to PharmAthene. However, any event of default relating to timely payment of debts, insolvency, liquidation, bankruptcy or similar events will result in automatic acceleration. Among the remedies available to GE Capital in case of an event of default are the taking possession and disposition of any collateral under the GE Loan Agreement.

**Risks Related to Theraclone**

*You should consider the following factors in evaluating whether to approve the proposals described in this proxy statement/prospectus/consent solicitation. These factors should be considered in conjunction with the other information included by PharmAthene and Theraclone in this proxy statement/prospectus/consent solicitation. The risk factors relating to Theraclone will also apply to the combined company going forward because a substantial portion of the business of the combined company will be Theraclone's business.*

**Risks Related to Theraclone's Financial Condition and Need for Additional Capital**

***Theraclone has incurred operating losses in each year since its inception, expects to continue to incur substantial and increasing losses for the foreseeable future, and will require substantial additional capital to fund its operations.***

Theraclone has been engaged in designing and developing compounds and product candidates since 2005 and has not generated any product revenue to date. Its net losses were $8.4 million, $2.8 million and $2.4 million for the years ended December 31, 2011 and 2012 and the six months ended June 30, 2013, respectively. To date, Theraclone has financed its operations primarily through equity financings, collaborative deals and debt financing. It has devoted most of its resources to research and development, including its preclinical development activities and clinical trials. Theraclone has not completed development of any product candidates. Theraclone expects its research and development expenses to increase in the future due to increased manufacturing and clinical development costs, primarily related to the costs of its clinical trials and the advancement of its preclinical studies, and to product candidate manufacturing costs. As a result, Theraclone expects to continue to incur substantial and increasing losses for the foreseeable future. Without substantial additional capital, Theraclone will exhaust its resources and be unable to continue operations. Theraclone is uncertain when or if it will be able to achieve or sustain profitability. Failure to become and remain profitable would adversely affect Theraclone's ability to continue its operations.

***If Theraclone fails to obtain the capital necessary to fund its operations, Theraclone may be unable to develop its product candidates, and Theraclone could be forced to share its rights to these product candidates on terms that may be unfavorable to Theraclone.***

Theraclone needs large amounts of capital to support the development of its product candidates and its research and development efforts. Theraclone intends to raise funds through government contracts, strategic partnerships, by issuing additional equity or debt securities, or both, or by incurring other indebtedness. If

Theraclone is unable to raise additional capital in sufficient amounts or on terms acceptable to it, Theraclone will be unable to advance development of its product candidates, unable to advance its research and development efforts and may enter into collaborations on terms that are not favorable to Theraclone.

Taking into account its projected operating results, Theraclone believes that its current aggregate cash and cash equivalents balances of $7.2 million as of June 30, 2013 will provide adequate resources to fund its operations into the second quarter of 2014. Its financial forecast reflects use of available cash to cover costs associated with continued clinical development of Theraclone's product candidates, TCN-032 and TCN-202, facilities, employee related expenses, and preclinical activities supporting Theraclone's other product candidates and discovery efforts. However, Theraclone can provide no assurance that the assumptions underlying its financial forecasts will be accurate, that it will not incur additional costs that are not included in its financial forecasts, that it will have sufficient resources to fund its operations or that it will achieve its projected operating results.

The amount of capital that Theraclone will require in the future will depend on a variety of factors, many of which are unpredictable, including:

- the costs and timing associated with the closing of the merger;
- the scope, rate of progress, results and costs of its discovery research, preclinical testing, clinical trials, and other research and development activities;
- the cost of establishing clinical and commercial supplies of its product candidates;
- the number of programs Theraclone pursues;
- the cost of preparing, filing, prosecuting, defending, and enforcing any patent claims and other intellectual property rights;
- the cost, timing, and outcomes of regulatory approvals; and
- the extent to which Theraclone acquires or invests in other businesses, products, or technologies.

While Theraclone has in the past raised capital from venture capital funds and other sources, Theraclone can give no assurance that funding will continue to be available. If Theraclone is unable to raise additional capital in sufficient amounts and on terms acceptable to it, Theraclone may be required to issue its equity or debt securities, sell or license its assets, or agree to be acquired, on terms that may not be favorable to Theraclone or to its stockholders.

***Theraclone's loan agreements could restrict Theraclone's ability to, among other things, sell certain assets, engage in a merger or change in control transaction, incur debt, pay cash dividends, and make investments without first obtaining the bank's consent.***

In May 2011, Theraclone entered into a loan agreement for equipment purchases with Silicon Valley Bank. Under the terms of the loan agreement, Theraclone borrowed $1.5 million in three separate tranches from May 2011 to May 2012 that bear interest at the rate of 5.5% per annum. The three borrowings mature at dates ranging from March 2014 through November 2014 and are collateralized by the laboratory and office equipment purchased with the proceeds of the borrowings.

In March 2013, Theraclone entered into a credit and security agreement with MidCap Financial and Silicon Valley Bank under which it can borrow up to $6 million for working capital purposes. Theraclone borrowed $3 million under the credit and security agreement in March 2013, and borrowed the remaining $3 million in August 2013. The credit facility has a term of 45 months and bears interest at a rate of 7% per annum, with an interest-only period of nine months from initiation of the agreement. The credit and security agreement is secured by substantially all of Theraclone's assets, with the exception of Theraclone's intellectual property and the laboratory and office equipment purchased with the proceeds of the loan agreement with Silicon Valley Bank.

The loan agreement and the credit and security agreement also contain, and any future financing arrangements may contain, events of default that are customary for credit facilities of that type, including payment defaults, financial condition and solvency defaults and the occurrence of certain material adverse change events. The occurrence of an event of default could result in the acceleration of the obligations under

the loan agreement and the credit and security agreement, or any future credit arrangements, as the case may be. The loan agreement, the credit and security agreement and any future agreements could restrict Theraclone's ability to, among other things, sell certain assets, engage in a merger or change in control transaction, incur debt, pay cash dividends, and make investments without first obtaining the lender's consent.

**Risks Related to Clinical Development Programs and Regulatory Approval**

***Theraclone's success depends on the success of its product candidates, TCN-032 and TCN-202, and Theraclone cannot be certain that either product candidate will be safe or effective, successfully complete clinical trials, receive regulatory approval or be successfully commercialized.***

TCN-032, one of Theraclone's product candidates, has completed a Phase 2a clinical trial for the treatment of influenza. TCN-202, Theraclone's other product candidate, has completed a Phase 1 clinical trial and began a Phase 2a study in August 2013 for the prevention of cytomegalovirus infection in high risk kidney transplant patients. Additional clinical trials will be required before Theraclone will be able to submit a Biologic License Application, or BLA, to the FDA for approval for either product candidate, if ever. The development and regulatory approval process takes many years to complete and requires the expenditure of substantial resources. Moreover, despite Theraclone's expenditure of substantial resources and its continued efforts to develop TCN-032 and TCN-202, the clinical trials required for FDA approval of either TCN-032 or TCN-202 may never be successfully completed. If the required clinical trials are not completed successfully, neither TCN-032 nor TCN-202 will receive regulatory approval. Even if TCN-032 and TCN-202 receive regulatory approvals, they may never be successfully commercialized. If either TCN-032 or TCN-202 does not receive regulatory approval or is not successfully commercialized, Theraclone may be unable to generate revenue, or become profitable, which would adversely affect its ability to continue operations.

***Theraclone does not have a broad product candidate portfolio, and as a result, its business is highly dependent on the successful development of only two product candidates.***

Theraclone has only two clinical stage product candidates, TCN-032 and TCN-202. As a result, until such time Theraclone is able to build a broader product candidate portfolio, if ever, any adverse developments in the clinic with respect to either one of Theraclone's two product candidates would have a more significant adverse impact on its overall business than if Theraclone maintained a broader portfolio of product candidates.

***Any failure or delay in commencing or completing clinical trials for its product candidates could harm Theraclone's business.***

To date, only TCN-032 and TCN-202 have entered clinical trials. The commencement and completion of clinical trials for Theraclone's product candidates may be delayed or prevented by many factors, including:

- having the capital resources available to fund preclinical studies and clinical trials;
- Theraclone's ability to obtain regulatory approval to commence clinical trials;
- Theraclone's ability to manufacture or obtain from third parties materials sufficient for use in preclinical studies and clinical trials;
- delays in patient enrollment and variability in the number and types of patients available for clinical trials;
- competition from other companies for a limited number of types of patients available for clinical trials;
- poor effectiveness of product candidates during clinical trials;
- safety issues or side effects;
- governmental or regulatory delays related to clinical trials, including trial design, results, and materials supply;
- changes in regulatory requirements, policy, and guidelines; and
- varying interpretation of data by Theraclone, the FDA, and similar foreign regulatory agencies.

It is possible that neither of Theraclone's product candidates will successfully complete the required clinical trials. Accordingly, Theraclone may not seek or receive the regulatory approvals necessary to market its product candidates. Any failure or delay in commencing or completing clinical trials or obtaining regulatory approvals for product candidates would prevent or delay their commercialization.

The results of Theraclone's preclinical studies using animal models may not be predictive of the results that Theraclone will see in its clinical trials. The prior results achieved by Theraclone in preclinical studies or clinical trials may not be indicative of future results in subsequent clinical trials. In addition, in the case of TCN-032, results in early-stage clinical trials that are based on a limited number of subjects artificially infected with the flu virus may not be predictive of the results that Theraclone will see in clinical trials involving large numbers of patients naturally infected with influenza.

Theraclone's progress and results from the early phases of clinical trials of its product candidates may not be indicative of progress or results that will be achieved with larger populations, which could be unfavorable. Moreover, Theraclone does not know if any favorable results it achieves in earlier and smaller clinical trials will have a lasting or repeatable effect. If a larger group of subjects does not experience positive results or if any favorable results do not demonstrate a beneficial effect, Theraclone's product candidates may not receive approval from the FDA for further clinical trials or commercialization.

***Theraclone may be unable to successfully identify additional product candidates.***

As a significant part of its growth strategy, Theraclone intends to develop and commercialize additional product candidates through its research program using its proprietary I-STAR platform. The success of this strategy depends upon Theraclone's ability to identify and select product candidates that fit into its development plans. Theraclone's efforts in drug discovery and development using the I-STAR platform have yielded only two product candidates to date, TCN-032 and TCN-202. Theraclone cannot be certain that it will be able to successfully identify any new product candidates and, even if Theraclone's research program initially shows promise in identifying potential product candidates, it may fail to yield product candidates suitable for clinical development.

***Products that appear promising in research and development may be delayed or may fail to reach later stages of clinical development.***

The successful development of pharmaceutical products is highly uncertain. Product candidates that appear promising in research and development may be delayed or fail to reach later stages of development. Decisions regarding the further development of product candidates must be made with limited and incomplete data, which makes it difficult to ensure or even accurately predict whether the allocation of limited resources and the expenditure of additional capital on specific product candidates will result in desired outcomes. Preclinical and clinical data can be interpreted in different ways, and negative or inconclusive results or adverse medical events during a clinical trial could delay, limit or prevent the development of a product candidate, which would harm Theraclone's business.

***Theraclone is subject to extensive and rigorous governmental regulation, including the requirement of approval before its products may be lawfully marketed.***

Before obtaining regulatory approvals for the commercial sale of any product candidate, Theraclone must demonstrate through preclinical testing and clinical trials that the product candidate is safe and effective for use in each target indication. This process takes many years and requires the expenditure of substantial resources. To date, Theraclone has not successfully demonstrated in clinical trials safety or efficacy sufficient for regulatory approval for any product candidate. Theraclone cannot assure you that its product candidates will demonstrate sufficient safety and efficacy for regulatory approval. Theraclone may also encounter delays or rejections due to additional government regulation from future legislation, administrative action, or changes in FDA policy. If Theraclone's current product candidates are not shown to be safe and effective in clinical trials, Theraclone's business would be harmed. If Theraclone is unable to discover or successfully develop drugs that are effective and safe in humans and receive regulatory approval, Theraclone's business could be harmed. Theraclone does not expect any of its current product candidates to be commercially available in major markets before 2019, if ever.

***Although Theraclone has received orphan drug designation, or ODD, for TCN-202, if Theraclone obtains regulatory approval for TCN-202, at the time of such approval, or subsequent to such approval, Theraclone may not receive or may lose marketing exclusivity.***

In January 2011, Theraclone obtained ODD in the United States for TCN-202 for the prevention of congenital CMV infection following primary CMV infection in pregnant women. In general, the first BLA applicant to receive FDA approval for a particular active ingredient to treat to an orphan indication is entitled to a seven-year exclusive marketing period for that active ingredient for that disease indication. Although during the exclusivity period the FDA generally may not approve any other application to market any drug for the same orphan indication, it may do so if the competing drug shows clinical superiority in that it is determined to be safer, more effective or makes a major contribution to patient care.

***Failure to obtain regulatory approval in foreign jurisdictions would prevent Theraclone from marketing its products internationally.***

Theraclone intends to have its product candidates marketed outside the United States. To market its products in the European Union and many other non-U.S. jurisdictions, Theraclone must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. To date, Theraclone has not filed for marketing approval of any of its product candidates and may not receive the approvals necessary to commercialize its product candidates in any market. The approval procedure varies among countries and can involve additional testing and data review. The time required to obtain foreign regulatory approval may differ from that required to obtain FDA approval. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval, or may include different or additional risks. Theraclone may not obtain foreign regulatory approvals on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory agencies in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory agencies in other foreign countries or by the FDA. Any failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in other jurisdictions, including approval by the FDA. Failure to obtain regulatory approval in foreign jurisdictions would harm Theraclone's business.

***Even if Theraclone's product candidates receive regulatory approval, they could be subject to restrictions or withdrawal from the market and Theraclone may be subject to penalties if Theraclone fails to comply with regulatory requirements or if Theraclone experiences unanticipated problems with its products.***

Any product candidate for which Theraclone receives regulatory approval, together with the manufacturing processes, post-approval clinical data, and advertising and promotional activities for such product, will be subject to continued review and regulation by the FDA and other regulatory agencies. Even if regulatory approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product candidate may be marketed or on the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product candidate. Later discovery of previously unknown problems with Theraclone's products or their manufacture, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the products or manufacturing processes;
- withdrawal of the products from the market;
- voluntary or mandatory recalls;
- fines;
- suspension of regulatory approvals;
- product seizures; or
- injunctions or the imposition of civil or criminal penalties.

If Theraclone is slow or otherwise unable to adapt to changes in existing regulatory requirements, Theraclone may lose marketing approval for any products that may be approved in the future.

Theraclone's product candidates may never achieve market acceptance even if Theraclone obtains regulatory approvals.

Even if Theraclone obtains regulatory approvals for the commercial sale of its product candidates, the commercial success of these product candidates will depend on, among other things, their acceptance by physicians, patients, third-party payors, and other members of the medical community as a therapeutic and cost-effective alternative to competing products and treatments. If Theraclone's product candidates fail to gain market acceptance, Theraclone may be unable to earn sufficient revenue to continue its business. Market acceptance of, and demand for, any product that Theraclone may develop and commercialize will depend on many factors, including:

- Theraclone's ability to provide acceptable evidence of safety and efficacy;
- the prevalence and severity of adverse side effects;
- availability, relative cost, and relative efficacy of alternative and competing treatments;
- the effectiveness of Theraclone's marketing and distribution strategy;
- publicity concerning Theraclone's products or competing products and treatments; and
- Theraclone's ability to obtain sufficient third-party insurance coverage or reimbursement.

If Theraclone's product candidates do not become widely accepted by physicians, patients, third-party payors, and other members of the medical community, Theraclone's business would be harmed.

***If any products Theraclone develops become subject to unfavorable pricing regulations, third-party reimbursement practices, or healthcare reform initiatives, Theraclone's business would be harmed.***

Theraclone's ability to commercialize any product candidate profitably will depend in part on the extent to which reimbursement for such product candidate and related treatments will be available from government health administration authorities, private health insurers or private payors, and other organizations in the United States and internationally. Even if Theraclone succeeds in bringing one or more product candidates to market, these products may not be considered cost-effective, and the amount reimbursed for any product may be insufficient to allow Theraclone to sell it profitably. Because Theraclone's product candidates are in the early stages of development, Theraclone is unable at this time to determine their cost-effectiveness and the level or method of reimbursement. There may be significant delays in obtaining coverage for newly approved products, and coverage may be more limited than the purposes for which the product candidate is approved by the FDA or foreign regulatory agencies. Moreover, eligibility for coverage does not mean that any product will be reimbursed in all cases or at a rate that covers Theraclone's costs, including research, development, manufacture, sale and distribution. Increasingly, the third-party payors who reimburse patients, such as government and private payors, are requiring that companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. If the reimbursement Theraclone is able to obtain for any product is inadequate in light of Theraclone's development and other costs, its business would be harmed.

***Recently enacted and future legislation may increase the difficulty and cost for Theraclone to obtain marketing approval of and commercialize its product candidates and affect the prices Theraclone may obtain.***

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of Theraclone's product candidates, restrict or regulate post-approval activities and affect its ability to profitably sell any products for which Theraclone obtains marketing approval.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class.

Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that Theraclone receives for any approved products. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payors.

In March 2010, the Patient Protection and Affordable Care Act of 2010, or the Health Care Reform Law, was enacted to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The Health Care Reform Law revises the definition of "average manufacturer price" for reporting purposes, which could increase the amount of Medicaid drug rebates to states. Further, the new law imposes a significant annual fee on companies that manufacture or import branded prescription drug products. New provisions affecting compliance have also been enacted, which may affect Theraclone's business practices with health care practitioners. Theraclone will not know the full effects of the Health Care Reform Law until applicable federal and state agencies issue regulations or guidance under the new law. Although it is too early to determine the effect of the Health Care Reform Law, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase Theraclone's regulatory burdens and operating costs.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. Theraclone is not sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of Theraclone's product candidates, if any, may be.

**Risks Related to Theraclone's Reliance on Third Parties**

***Theraclone relies on third-party manufacturers to supply cell lines and produce bulk drug substance and drug product required for its clinical studies. Failure by such third-party manufacturers to produce sufficient drug product for clinical trials in timely or cost efficient manner would delay or increase the costs associated with Theraclone's clinical development activities.***

Theraclone relies on third-party manufacturers to supply cell lines and produce bulk drug substance and drug product required for its clinical studies. If such third-party manufacturers are not able to produce sufficient cell lines, bulk drug substance, or drug product required for Theraclone's clinical studies in timely or cost efficient manner, Theraclone must enter into supply agreements with new manufacturers and, if Theraclone is unable to enter into supply agreements with new manufacturers on commercially acceptable terms or on a timely basis, Theraclone may be unable to complete its product development efforts in a timely manner, if at all.

Additionally, any manufacturer of Theraclone's product candidates and approved products, if any, must comply with cGMP requirements enforced by the FDA through its right to inspect facilities. These requirements include quality control, quality assurance, and the maintenance of records and documentation. Manufacturers of Theraclone's product candidates and approved products, if any, may be unable to comply with these cGMP requirements and with other FDA, state, and foreign regulatory requirements, as applicable. Theraclone has little control over its manufacturers' compliance with these regulations and standards. Failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. If the safety of any quantities supplied is compromised due to Theraclone's manufacturers' failure to adhere to applicable laws or for other reasons, Theraclone may be unable to obtain regulatory approval for or successfully commercialize its products, which would harm its business.

***Theraclone relies on third parties to conduct its clinical trials. If these third parties do not perform as contractually required or otherwise expected, Theraclone may be unable to obtain regulatory approval for or commercialize its product candidates.***

Theraclone does not currently conduct its own clinical trials and Theraclone depends on third parties, such as CROs, medical institutions, clinical investigators, and contract laboratories, to conduct its clinical trials. Theraclone has, in the ordinary course of business, entered into agreements with these third parties. Nonetheless, Theraclone is responsible for confirming that each of its clinical trials is conducted in accordance with its general investigational plan and protocol. Moreover, the FDA requires Theraclone to comply with regulations and standards, commonly referred to as good clinical practices, for conducting, recording, and reporting the results of clinical trials to ensure that data and reported results are credible and accurate and that the trial participants are adequately protected. Theraclone's reliance on third parties does not relieve it of these responsibilities and requirements. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if the third parties need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to Theraclone's clinical protocols or regulatory requirements or for other reasons, Theraclone's clinical trials may be extended, delayed, suspended, or terminated, and Theraclone may be unable to obtain regulatory approval for its product candidates.

***Theraclone may be unable to obtain and maintain additional third-party relationships that are necessary to develop, commercialize and manufacture some or all of Theraclone's product candidates or to expand its pipeline by adding new candidates.***

Theraclone expects to depend on collaborators, partners, licensees, licensors, CROs, manufacturers and other third parties and strategic partners to support Theraclone's discovery and development efforts, to formulate product candidates, to conduct clinical trials for some or all of its product candidates, to manufacture clinical and commercial scale quantities of its product candidates and products and to market, sell, and distribute any products Theraclone successfully develops. Theraclone also contracts with third parties for the filling, labeling, packaging, storage and distribution of investigational drug products. As a result, its success depends largely on the success of these third parties in performing their responsibilities. Although Theraclone prequalifies these third parties and believes that they are fully capable of performing their contractual obligations, it cannot directly control the adequacy and timeliness of resources and expertise that these third parties apply to these activities. Furthermore, it has to compete with other biopharmaceutical companies for access to this limited pool of highly specialized resources. Theraclone cannot guarantee that it will be able to successfully negotiate agreements for or maintain relationships with collaborators, partners, licensees, clinical investigators, manufacturers and other third parties on favorable terms, if at all. If Theraclone is unable to obtain or maintain these agreements, Theraclone may be unable to develop, formulate, manufacture, obtain regulatory approvals for or commercialize its product candidates.

**Risks Related to Theraclone's Intellectual Property**

***If Theraclone's technology or its product candidates conflict with the rights of others, Theraclone may be unable to manufacture or market its product candidates, which could harm Theraclone's business.***

Theraclone's commercial success will depend in part on not infringing the patents or violating the proprietary rights of third parties. Issued patents held by others may limit Theraclone's ability to develop commercial products. All issued U.S. patents are entitled to a presumption of validity under U.S. law. Theraclone's commercial success will depend significantly on Theraclone's ability to operate without infringing the patents and proprietary rights of third parties. If Theraclone needs licenses to such patents to permit it to manufacture, develop, or market its product candidates Theraclone may be required to pay significant fees or royalties. Theraclone cannot be certain that it would be able to obtain such licenses. For example, Theraclone is aware of one U.S. patent family covering recombinant production of an antibody under which a license may be required with respect to a monoclonal antibody that uses recombinant production technologies. Theraclone cannot provide any assurances that it would be able to obtain such a license or that the terms thereof would be reasonable. If it does not obtain such a license, legal action based on such patents could be brought against Theraclone or Theraclone's distributors, licensees or collaborators, Competitors or third parties may have or may obtain patents that may cover subject matter Theraclone uses in

developing the technology required to bring its products to market, producing its products, or treating patients with its products. If use of technology incorporated into or used to produce Theraclone's product candidates is challenged, or if Theraclone's processes or product candidates conflict with patent rights of others, third parties could bring legal actions against it claiming damages and seeking to enjoin manufacturing and marketing of the affected products. Additionally, it is not possible to predict with certainty what patent claims may issue from pending applications. With respect to patent applications filed solely in the United States, for example, patent prosecution could proceed in secret prior to issuance of a patent. As a result, third parties with such patent applications could obtain patents with claims relating to Theraclone's product candidates, which they could attempt to assert against Theraclone without Theraclone's prior knowledge. Further, as Theraclone develops its products, such third parties may assert that Theraclone infringes the patents currently held or licensed by them and Theraclone cannot predict the outcome of any such action.

***Theraclone does not hold any patents covering its I-STAR platform and intends to rely solely on trade secret protection. Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of trade secrets and other proprietary information.***

Theraclone's I-STAR platform is based on its confidential and proprietary information but is not currently covered by any patents. Theraclone protects this information as trade secrets, which may be inadvertently disclosed or misappropriated. If this were to occur, Theraclone's business would be harmed.

Trade secrets offer a relatively limited form of protection as they do not create any barrier for third parties who independently develop this information and who may even patent the information. In the course of Theraclone's research and development activities and its business activities, Theraclone often relies on confidentiality agreements to try to protect Theraclone's proprietary information. Such confidentiality agreements may be used, for example, when Theraclone talks to vendors of laboratory or clinical development services or potential strategic partners. In addition, each of Theraclone's employees is required to sign a confidentiality agreement upon joining Theraclone. Nevertheless, there can be no assurance that an employee or an outside party will not make an unauthorized disclosure of Theraclone's proprietary confidential information. This might happen intentionally or inadvertently. It is possible that a competitor will make use of such information, and that Theraclone's competitive position will be compromised, in spite of any legal action Theraclone might take against persons making such unauthorized disclosures. In addition, others may independently develop substantially equivalent proprietary information or techniques or otherwise gain access to Theraclone's trade secrets. Enforcing a claim that a third party illegally obtained and is using any of Theraclone's trade secrets is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States sometimes are less willing than U.S. courts to protect trade secrets. Moreover, Theraclone's competitors may independently develop equivalent knowledge, methods and know-how, which would harm its business.

***Theraclone may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights.***

There has been significant litigation in the biotechnology industry over patents and other proprietary rights, and if Theraclone becomes involved in any litigation it could consume a substantial portion of its resources, regardless of the outcome of the litigation. Many of Theraclone's competitors may be better able to sustain the costs of complex patent litigation because they have substantially greater resources. If any legal action against Theraclone is successful, in addition to any potential liability for damages, Theraclone could be required to obtain a license, grant cross-licenses, or pay substantial royalties in order to continue to manufacture or market the affected products. Theraclone cannot assure you that it would prevail in any legal action or that any license required under a third-party patent would be made available on acceptable terms, if at all. In addition, uncertainties resulting from the initiation and continuation of any litigation could harm Theraclone's business. Ultimately, Theraclone could be prevented from commercializing a product or be forced to cease some aspect of its business operations as a result of claims of patent infringement or violation of other intellectual property rights, which could harm Theraclone's business. Should third parties file patent applications, or be issued patents claiming technology also claimed by Theraclone in pending applications, Theraclone may be required to participate in interference proceedings in the USPTO to determine priority of invention, which could result in substantial costs to Theraclone and an adverse decision as to the priority of

its inventions. An unfavorable outcome in an interference proceeding could require Theraclone to cease using the technology or to license rights from prevailing third parties. Theraclone cannot assure you that any prevailing party would offer it a license or do so on commercially acceptable terms.

***If Theraclone is unable to obtain, maintain, and enforce its proprietary rights, Theraclone may be unable to compete effectively or operate profitably.***

Theraclone's success depends in part on obtaining, maintaining, and enforcing its patents and other proprietary rights, and will depend in large part on its ability to:

- obtain and maintain patent and other proprietary protection for Theraclone's technology, processes, and product candidates;
- enforce patents once issued and defend those patents if their enforceability is challenged;
- preserve trade secrets, in particular with respect to its I-STAR platform; and
- operate without infringing the patents and proprietary rights of third parties.

The degree of future protection for Theraclone's proprietary rights is uncertain. For example:

- Theraclone might not have been the first to make the inventions claimed in its patents, if issued, or disclosed in its pending patent applications;
- Theraclone might not have been the first to file patent applications for these inventions;
- others may independently develop similar or alternative technologies or duplicate any of Theraclone technologies;
- it is possible that none of Theraclone's pending patent applications will result in issued patents or, if issued, these patents may not be sufficient to protect its technology or provide Theraclone with a basis for commercially viable products, and may not provide Theraclone with any competitive advantages;
- if Theraclone's pending applications issue as patents, they may be challenged by third parties as infringing, invalid, or unenforceable under U.S. or foreign laws; and
- Theraclone may develop additional proprietary technologies that are not patentable and that may not be adequately protected through trade secrets, if, for example, a competitor were to independently develop duplicative, similar, or alternative technologies.

The patent position of biotechnology and pharmaceutical firms is highly uncertain and involves many complex legal and technical issues. There is no clear policy involving the breadth of claims allowed in patents or the degree of protection afforded under patents. Theraclone cannot assure you that patent applications owned by or licensed to it will result in patents being issued or that, if issued, the patents will give Theraclone an advantage over competitors with similar technology, nor can Theraclone assure you that Theraclone can obtain, maintain, and enforce all ownership and other proprietary rights necessary to develop and commercialize its product candidates.

Even if any or all of Theraclone's patent applications issue as patents, others may challenge the validity, inventorship, ownership, enforceability, or scope of Theraclone's patents or other technology used in or otherwise necessary for the development and commercialization of Theraclone's product candidates. Theraclone cannot assure you that any such challenge would not be successful. Moreover, the cost of litigation to uphold the validity of patents to prevent infringement or to otherwise protect Theraclone's proprietary rights can be substantial. If the outcome of litigation is adverse to Theraclone, third parties may be able to use the challenged technologies without payment to Theraclone. Theraclone cannot assure you that Theraclone's patents, if issued, will not be infringed or successfully avoided through design innovation. Intellectual property lawsuits are expensive and would consume time and other resources, even if the outcome were successful. In addition, there is a risk that a court would decide that Theraclone's patents, if issued, are not valid and that Theraclone does not have the right to stop the other party from using the inventions. There is also the risk that, even if the validity of a patent were upheld, a court would refuse to stop the other party from using the inventions, including on the ground that its activities do not infringe that patent.

**Risks Related to Theraclone's Business Operations and Industry**

***Theraclone depends on its senior management and scientific personnel, and Theraclone's business would be harmed if Theraclone is unable to attract and retain key personnel necessary for its success.***

Theraclone is highly dependent on its senior management, especially Clifford J. Stocks, Theraclone's Chief Executive Officer, Russ Hawkinson, Theraclone's Chief Financial Officer, Eleanor Ramos, M.D., Theraclone's Chief Medical Officer, and Kristine Swiderek, Ph.D., Theraclone's Chief Scientific Officer. Theraclone's success will depend on its ability to retain senior management and to attract, retain, and motivate qualified personnel in the future, including scientists, clinicians, and other highly skilled personnel and to integrate current and additional personnel in all departments. Competition for senior management personnel, as well as scientists, is intense and Theraclone may be unable to retain its personnel. The loss of any members of Theraclone's senior management or any scientists, in particular, to a competitor, could hinder Theraclone's ability to develop and commercialize Theraclone's product candidates. The loss of a member of Theraclone's senior management or professional staff would require the remaining senior executive officers to divert immediate and substantial attention to seeking a replacement.

***Theraclone has entered into strategic partnerships and intends to enter into additional strategic partnerships in the future. In any strategic partnership Theraclone may be required to relinquish important rights to and control over the development of its product candidates or otherwise be subject to terms unfavorable to Theraclone.***

By entering into any strategic partnerships, Theraclone is and will be subject to a number of risks, including:

- Theraclone may be unable to control the amount and timing of resources that its strategic partners devote to the development or commercialization of product candidates;
- strategic partners may delay clinical trials, design clinical trials in a manner with which Theraclone does not agree, provide insufficient funding, terminate a clinical trial or abandon a product candidate, repeat or conduct new clinical trials, or require a new version of a product candidate for clinical testing;
- strategic partners may not pursue further development and commercialization of products resulting from the strategic partnering arrangement or may elect to discontinue research and development programs;
- strategic partners may not commit adequate resources to the marketing and distribution of any future products, limiting Theraclone's potential revenues from these products;
- disputes may arise between Theraclone and its strategic partners that result in the delay or termination of the research, development, or commercialization of Theraclone's product candidates or that result in costly litigation or arbitration that diverts management's attention and consumes resources;
- strategic partners may experience financial difficulties;
- strategic partners may not properly maintain or defend Theraclone's intellectual property rights or may use Theraclone's proprietary information in a manner that could jeopardize or invalidate Theraclone's proprietary information or expose Theraclone to potential litigation;
- business combinations or significant changes in a strategic partner's business strategy may also adversely affect a strategic partner's willingness or ability to complete its obligations under any arrangement;
- strategic partners could independently move forward with a competing product candidate developed either independently or in collaboration with others, including Theraclone's competitors; and
- strategic partners could terminate the arrangement or allow it to expire, which would delay the development and may increase the cost of developing Theraclone's product candidates.

The occurrence of any of these risks could negatively impact the development of Theraclone's product candidates.

***Several companies, which have substantial experience and resources, have products or are developing product candidates in the areas Theraclone has targeted for its product candidates.***

For Theraclone's product candidates in development, Theraclone faces competition from other entities involved in the research and development of therapeutic proteins, antibody products and pharmaceuticals, including Roche/Genentech, GlaxoSmithKline, Johnson & Johnson, Vertex, Astellas, Chimerix and Merck. A number of Theraclone's largest competitors are pursuing the development or marketing of pharmaceuticals that address the same diseases that Theraclone is pursuing, and the number of companies seeking to develop products and therapies for these diseases may increase. Theraclone also faces competition from entities developing other types of products targeting particular diseases, including other biotechnology and pharmaceutical companies, universities, public and private research institutions, government entities and other organizations.

Furthermore, Theraclone's potential products, if approved and commercialized, may compete against well-established therapeutic protein-based products or well-established antibody products, many of which may be currently reimbursed by government health administration authorities, private health insurers and health maintenance organizations. For example, if approved for the treatment of influenza, Theraclone anticipates that its product candidate, TCN-032, would compete with other therapies for influenza, including existing antivirals (oseltamivir, zanamivir) and other products in development (peramivir, anti-HA antibodies, VX-787, nitazoxanide). If approved for the treatment of CMV, Theraclone anticipates that its product candidate, TCN-202, would compete with other therapies for CMV, including existing antivirals (ganciclovir, valganciclovir), and other products in development (CMX-001, letermovir and ASP0113).

Many of Theraclone's existing and potential competitors have substantially greater research, product development and commercial capabilities, and financial, scientific, marketing and human resources than Theraclone does. As a result, these competitors may:

- succeed in developing therapeutic protein-based products or alternative therapies, earlier than Theraclone does;
- obtain approvals for products from the FDA or other regulatory agencies more rapidly than Theraclone does;
- obtain patents that block or otherwise inhibit Theraclone's ability to develop and commercialize its product candidates;
- develop treatments or cures that are safer, more effective, convenient or economical than those Theraclone proposes to develop;
- devote greater resources to marketing or selling their products;
- introduce products that make the continued development of Theraclone's potential products uneconomical;
- withstand price competition more successfully than Theraclone can;
- negotiate more favorable terms with third-party collaborators, licensees, group purchasing organizations and other large customers; and
- take advantage of acquisitions or other opportunities more readily than Theraclone can.

Because of these and other potential disadvantages, Theraclone may be unable to compete effectively with these competitors. All of Theraclone's product candidates face competition and Theraclone expects that competition in its industry will continue to be intense.

***Theraclone faces potential product liability exposure, and if successful claims are brought against Theraclone, it may incur substantial liability for a product candidate and may have to limit such product candidate's commercialization.***

The use of Theraclone's product candidates in clinical trials and the sale of any products for which Theraclone obtains marketing approval expose Theraclone to the risk of product liability claims. Product liability claims might be brought against Theraclone by consumers, health care providers, pharmaceutical companies or others selling Theraclone's products. If Theraclone cannot successfully defend itself against these claims, Theraclone will incur substantial liabilities. Regardless of merit or eventual outcome, product liability claims may result in:

- decreased demand for Theraclone's product candidates;
- impairment of Theraclone's business reputation;
- withdrawal of clinical trial participants;
- costs of related litigation;
- substantial monetary awards to patients or other claimants;
- loss of revenues; and
- inability to commercialize Theraclone's product candidates.

Theraclone's product liability insurers may not reimburse Theraclone, or Theraclone's insurance coverage may not be sufficient to reimburse Theraclone, for any or all expenses or losses Theraclone may suffer. Moreover, insurance coverage is becoming increasingly expensive and, in the future, Theraclone may be unable to maintain insurance coverage at a reasonable cost or in amounts designed to protect Theraclone against losses due to liability. Theraclone intends to expand its insurance coverage to include the sale of commercial products if Theraclone obtains marketing approval for its product candidates in development, but Theraclone may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. On occasion, large judgments have been awarded in class action lawsuits based on products that had unanticipated side effects. A successful product liability claim or series of claims brought against Theraclone that exceeds its insurance limits would harm its business.

***If Theraclone uses biological and hazardous materials in a manner that causes contamination or injury or violates laws, Theraclone may be liable for damages.***

Theraclone's research and development activities and clinical trials involve the use of potentially harmful biological materials, as well as hazardous materials and chemicals. Theraclone cannot completely eliminate the risk of accidental contamination or injury from the distribution, use, storage, handling, or disposal of these materials. In the event of contamination or injury, Theraclone could be held liable for damages that result, and any liability could exceed its available financial resources. Theraclone, its collaborative partners, the third parties that conduct clinical trials on its behalf, and its third-party manufacturers are subject to federal, state, local or foreign laws and regulations governing the use, storage, handling, and disposal of these materials and waste products. The cost of compliance with these laws and regulations could be significant. The failure to comply with any of these laws and regulations could result in significant fines and work stoppages.

***If Theraclone's facility incurs damage or if power is lost for a significant length of time, Theraclone's business would be harmed.***

Theraclone stores research materials, donor samples, preclinical and clinical data at its facility in Seattle, Washington. Although duplicate copies of most critical electronic data are secured off site, any loss of data could result in significant delays in its operations. Theraclone's landlord has informed Theraclone that it plans to undertake a major remodel of the building where Theraclone leases its facility. If Theraclone's facility incurs damage, or power is lost for a significant time, or there are significant vibration or other construction related impacts, Theraclone's business could be harmed.

***Theraclone's internal computer systems, or those used by its clinical investigators, CROs or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of development programs for Theraclone's product candidates.***

Theraclone relies on information technology systems to keep financial records, maintain laboratory and corporate records, communicate with staff and external parties and operate other critical functions. Any significant degradation or failure of Theraclone's computer systems could cause it to inaccurately calculate or lose its data. Despite the implementation of security measures, Theraclone's internal computer systems and those used by its clinical investigators, CROs, and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war, and telecommunication and electrical failures. The techniques that could be used by criminal elements or foreign governments to attack these computer systems are sophisticated, change frequently and may originate from less regulated and remote areas of the world. While Theraclone has not experienced any such system failure, theft of information, accident or security breach to date, if such an event were to occur and cause interruptions in its operations, it could result in a material disruption of Theraclone's clinical development activities. For example, the loss of clinical trial data from ongoing or future clinical trials could result in delays in regulatory approval efforts and significantly increase costs to recover or reproduce the data. To the extent that any disruption, theft of information, or security breach were to result in a loss of or damage to data or applications, or inappropriate disclosure of confidential or proprietary information, Theraclone could incur liability and the clinical development and the future development of its product candidates could be delayed.

## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This proxy statement/prospectus/consent solicitation contains “forward-looking statements” of PharmAthene within the meaning of the Private Securities Litigation Reform Act of 1995, which is applicable to PharmAthene, but not Theraclone, because PharmAthene, unlike Theraclone, is a public company subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act. For this purpose, any statements contained herein regarding PharmAthene, other than statements of historical fact, may be forward-looking statements under the provisions of the Private Securities Litigation Reform Act of 1995. Statements that are not historical facts, including statements preceded by, followed by, or that include the words “will,” “potential,” “believe,” “anticipate,” “intend,” “plan,” “expect,” “estimate,” “could,” “may,” “should” or similar statements are forward-looking statements. Such statements can be identified by the fact that they do not relate strictly to historical or current facts.

Forward-looking statements in this proxy statement/prospectus/consent solicitation include those referring to the potential for the generation of value as a result of the proposed merger, including the ability to leverage funding sources, potential for revenue, and potential for growth. PharmAthene disclaims any intent or obligation to update these forward-looking statements. Risks and uncertainties include, among others, failure to obtain necessary stockholder approval for the proposed merger with Theraclone and the matters related thereto; failure of either party to meet the conditions to closing of the transaction; delays in completing the transaction and the risk that the transaction may not be completed at all; failure to realize the anticipated benefits from the transaction or delay in realization thereof; the businesses of PharmAthene and Theraclone may not be combined successfully, or such combination may take longer, be more difficult, time-consuming or costly to accomplish than expected; operating costs and business disruption during the pendency of and following the transaction, including adverse effects on employee retention and on business relationships with third parties; the combined company’s need for and ability to obtain additional financing; risk associated with the reliability of the results of the studies relating to human safety and possible adverse effects resulting from the administration of the combined company’s product candidates; unexpected funding delays and/or reductions or elimination of U.S. government funding for one or more of the combined company’s development programs; the award of government contracts to competitors; unforeseen safety issues; unexpected determinations that these product candidates prove not to be effective and/or capable of being marketed as products; as well as risks described above in the section avove entitled “RISK FACTORS” and as detailed from time to time in PharmAthene’s filed with the SEC. In particular, in its May 2013 decision, the Delaware Supreme Court reversed the remedy ordered by the Delaware Court of Chancery and remanded the issue of a remedy back to the trial court for reconsideration in light of the Supreme Court’s opinion. As a result, there can be no assurance that the Delaware Chancery Court will issue a remedy that provides PharmAthene with a financial interest in Arestvyr™ and related products or any remedy. Furthermore, there is significant uncertainty regarding the level and timing of sales of Arestvyr™ and when and whether it will be approved by the U.S. FDA and corresponding health agencies around the world. So even if the Delaware Court of Chancery does award PharmAthene a remedy that provides PharmAthene monies related to sales or profit of Arestvyr™, PharmAthene cannot predict with certainty if or when SIGA will begin recognizing profit on the sale thereof and there can be no assurance that any profits received by SIGA and paid to PharmAthene will be significant. In addition, significant additional research work, non-clinical animal studies, clinical trials, and manufacturing development work remain to be done with respect to PharmAthene’s product candidates. At this point there can be no assurance that any of these product candidates will be shown to be safe and effective and approved by regulatory authorities for use in humans.

In addition, any statements contained herein regarding Theraclone, other than statements of historical fact, should be considered forward-looking statements. Statements that are not historical facts, including statements preceded by, followed by, or that include the words “will,” “potential,” “believe,” “anticipate,” “intend,” “plan,” “expect,” “estimate,” “could,” “may,” “should” or similar statements are forward-looking statements. Such statements can be identified by the fact that they do not relate strictly to historical or current facts. These forward-looking statements are found at various places throughout this proxy statement/prospectus/consent solicitation and relate to a variety of matters, including but not limited to:

- the timing and anticipated completion of the proposed merger;
- the successful refinancing of existing credit facilities;

- the expected benefits of and potential value created by the proposed merger for the stockholders of PharmAthene and Theraclone;
- the amount of cash and cash equivalents that will be available to fund the combined company's business after the merger and the length of time that the combined company anticipates such cash and cash equivalents will be available to fund the combined company's operating plan after the merger;
- the likelihood of the satisfaction of certain conditions to completion of the merger and whether and when the merger will be completed;
- the potential discovery of additional product candidates and the development, commercialization and expected benefit of current product candidates;
- the expected timing and results of preclinical and clinical trials;
- PharmAthene's and Theraclone's respective results of operations, financial condition and businesses and their respective objectives, plans and expectations;
- information about the combined company and the expected impact of the proposed merger on the combined company and its future business, operating results and financial condition;
- the potential value of the SIGA litigation; and
- other statements that are not purely statements of historical fact.

These statements are subject to risks and uncertainties, including the risks described in this proxy statement/prospectus/consent solicitation under the section entitled "RISK FACTORS" that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements in this proxy statement/prospectus/consent solicitation. Forward-looking statements are not guarantees of performance. Further, these statements are based upon the current beliefs and expectations of the management of PharmAthene and Theraclone and are subject to a number of factors that could cause actual outcomes and results to be materially different from those projected or anticipated. Readers are cautioned not to place undue reliance on these forward-looking statements which speak only as of the date hereof. Except to the extent required by applicable law or regulation, neither PharmAthene nor Theraclone undertakes any obligation to update or publish revised forward-looking statements to reflect events or circumstances after the date hereof or the date of the forward-looking statements or to reflect the occurrence of unanticipated events.

## MARKET AND INDUSTRY DATA

Information and management estimates contained in this proxy statement/prospectus/consent solicitation concerning the biotechnology industry, including general expectations and market position and market opportunity, are based on publicly available information, such as clinical studies, academic research reports and other research reports, as well as information from industry reports provided by third-party sources, such as the American Journal of Transplantation, British Medical Journal, Centers for Disease Control and Prevention, Nation Cancer Institute, National Center for Biotechnology Information, National Institute of Health, Global Data, Global Industry Analysts, Global Observatory on Donation & Transplantation, U.S. Department of Health and Human Services, U.S. Food and Drug Administration, U.S. Agency for Healthcare Research and Quality, University of Pittsburgh Medical Center — Center for Biosecurity, Visiongain and World Health Organization. The management estimates are also derived from Theraclone's internal research, using assumptions made by Theraclone that it believes to be reasonable and Theraclone's knowledge of the industry and markets in which Theraclone operates and expects to compete. None of the sources cited in this proxy statement/prospectus/consent solicitation have consented to the inclusion of any data from its reports, nor have PharmAthene or Theraclone sought their consent. Theraclone's internal research has not been verified by any independent source, and Theraclone has not independently verified any third-party information. In addition, while Theraclone believes the market position and market opportunity information included in this proxy statement/prospectus/consent solicitation is generally reliable, such information is inherently imprecise. Such data involves risks and uncertainties and are subject to change based on various factors, including those discussed in the section entitled "RISK FACTORS."

"Protexia," "SparVax" and "Valortim" and are some of PharmAthene's trademarks used in this prospectus. "I STAR" is one of Theraclone's trademarks used in this prospectus. Other trademarks appearing in this prospectus, including "Arestvyr," "BioThrax," "Cialis," "Cipro," "Cytogam," "Cytotect," "Flumadine," "Relenza," "Symmetrel" and "Tamiflu," are the property of their respective holders. Solely for convenience, these and other trademarks, trade names and service marks referred to in this prospectus appear without the , š and SM symbols, but those references are not intended to indicate, in any way, that PharmAthene, Theraclone or the owners of such trademarks will not assert, to the fullest extent under applicable law, their rights to these trademarks and trade names.

## THE SPECIAL MEETING OF PHARMATHENE STOCKHOLDERS

### General

This proxy statement/prospectus/consent solicitation is being furnished to PharmAthene stockholders on or about October , 2013. PharmAthene is sending this proxy statement/prospectus/consent solicitation to its stockholders in connection with the solicitation of proxies by the PharmAthene Board of Directors for use at the PharmAthene special meeting and any adjournments or postponements of the meeting.

### Date, Time and Place

The special meeting of PharmAthene stockholders will be held at 9 a.m, local time, on December 3, 2013, at Dentons US LLP's office located at 1301 K Street, NW, East Tower, Sixth Floor, Washington, DC 20005.

### Purposes of the PharmAthene Special Meeting

1. To consider and vote upon a proposal to approve the issuance of PharmAthene common stock in the merger contemplated by the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation accompanying this notice;
2. To consider and vote upon a proposal to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue;
3. To elect nine persons to serve as directors until PharmAthene's next annual meeting of stockholders or until their respective successors are elected and qualified;
4. To approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and
5. To consider and vote upon a proposal to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

PharmAthene stockholders also will consider and act on any other matters as may properly come before the PharmAthene special meeting or any adjournment or postponement of the meeting, including any procedural matters incident to the conduct of the meeting.

### Recommendations of the PharmAthene Board of Directors

The PharmAthene Board of Directors has determined and believes that the merger and all related transactions, including the issuance of shares of PharmAthene common stock in the merger, is advisable, fair to, and in the best interests of PharmAthene and its stockholders. The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote:

- "**FOR**" PharmAthene Proposal No. 1 to approve the issuance of PharmAthene common stock in the merger contemplated by the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation;
- "**FOR**" PharmAthene Proposal No. 2 to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue;
- "**FOR**" each of the nine director nominees named in this proxy statement/prospectus/consent solicitation under Proposal No. 3 to serve as directors until PharmAthene's next annual meeting of stockholders or until their respective successors are elected and qualified;
- "**FOR**" PharmAthene Proposal No. 4 to approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and
- The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "**FOR**" PharmAthene Proposal No. 5 to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes to approve any of the proposals.

**Record Date and Voting Power**

The close of business on October 4, 2013 has been fixed as the record date for determination of PharmAthene stockholders entitled to notice of, and to vote at, the PharmAthene special meeting or any adjournments or postponements of the meeting. Only holders of record of PharmAthene common stock at the close of business on the record date are entitled to notice of, and to vote at, the special meeting. At the close of business on the record date, PharmAthene had 52,310,913 shares of common stock outstanding and entitled to vote. Each share of PharmAthene common stock entitles the holder thereof to one vote on each matter submitted for stockholder approval. See the section entitled "Principal Stockholders of PharmAthene" for information regarding persons known to management of PharmAthene to be the beneficial owners of more than five percent of the outstanding shares of PharmAthene common stock.

**Voting and Revocation of Proxies**

The proxy accompanying this proxy statement/prospectus/consent solicitation is solicited on behalf of the PharmAthene Board of Directors for use at the PharmAthene special meeting. If you are a PharmAthene stockholder of record as of the record date for the PharmAthene special meeting, you may vote in person at the PharmAthene special meeting or vote by proxy over the Internet, by telephone or by using the enclosed proxy card. Whether or not you plan to attend the PharmAthene special meeting, PharmAthene urges you to vote by proxy to ensure your vote is counted. You still may attend the PharmAthene special meeting and vote in person if you already have voted by proxy.

PharmAthene stockholders that hold shares in a brokerage account or by another nominee are considered the beneficial owner of shares held in "street name" and will receive instructions from such nominee that must be followed in order to vote shares at the PharmAthene special meeting. Stockholders that hold their shares in "street name" and that wish to attend and vote in person at the PharmAthene special meeting must contact their broker, bank or other nominee to obtain evidence of ownership of PharmAthene common stock, such as a legal proxy, as of the record date for the special meeting. Stockholders that hold PharmAthene shares in "street name" may have their shares voted by their bank, broker or other nominee even if they do not attend the PharmAthene special meeting, but only with respect to "routine" proposals. None of the proposals being presented to PharmAthene stockholders at the special meeting is a non-routine matter. Accordingly, brokers, banks or other nominees cannot vote shares on any such proposal without specific instructions from the beneficial owner of the shares. If any PharmAthene stockholder fails to provide instructions with respect to these proposals, the stockholder's broker, bank or other nominee must deliver a proxy card to PharmAthene expressly indicating that it is NOT voting the beneficial holder's shares, which is referred to as a "broker non-vote." Broker non-votes will not count for purposes of determining the number of votes cast. See "Quorum and Required Vote" below for details regarding the impact of broker non-votes on the proposals being considered at the special meeting. A beneficial owner of PharmAthene common stock that holds shares in "street name" must follow directions received from the bank, broker or other nominee that holds the shares to change its voting instructions.

All properly executed proxies that are not revoked will be voted at the PharmAthene special meeting and at any adjournments or postponements of the meeting in accordance with the instructions contained in the proxy. If a holder of PharmAthene common stock executes and returns a proxy and does not specify otherwise, the shares represented by that proxy will be voted "**FOR**" each of the five proposals. Any PharmAthene stockholder of record voting by proxy, other than those stockholders who have executed the PharmAthene Voting Agreement, has the right to revoke the proxy at any time before the polls close at the PharmAthene special meeting by sending a written notice stating that it would like to revoke its proxy to the corporate secretary of PharmAthene, by voting again or by providing a duly executed proxy card bearing a later date than the proxy being revoked or by attending the PharmAthene special meeting and voting in person. Attendance alone at the PharmAthene special meeting will not revoke a proxy.

**Quorum and Required Vote**

A quorum is the number of shares that must be represented in person or by proxy in order for business to be transacted at the PharmAthene special meeting. A quorum will be present at the PharmAthene special meeting if holders of a majority of the shares of PharmAthene's common stock entitled to vote at the PharmAthene special meeting are present in person or by proxy. Abstentions will count as present for the purpose of establishing a quorum, while broker non-votes will not. If a quorum is not present or represented by proxy, the holders of a majority of the shares entitled to vote at the PharmAthene special meeting who are present in person or represented by proxy may adjourn the PharmAthene special meeting to another date.

A description of the vote required to approve each proposal being submitted to a vote of PharmAthene stockholders is included with the description of each proposal. If shares are held in "street name" and stockholders holding such shares do not direct their brokers how to vote with respect to any of the proposals, their brokers may not exercise discretion and may not vote their shares on that proposal. For purposes of Proposal Nos. 1 through 5, broker non-votes are considered to be shares represented by proxy at the PharmAthene special meeting but are not considered to be shares "entitled to vote" or "votes cast" at the meeting. As such, a broker non-vote will have no effect on the outcome of Proposal Nos. 1, 3, 4, and 5. Broker non-votes will have the effect of a vote "Against" Proposal No. 2. Proxies marked "Abstain" will be counted in determining the total number of shares "entitled to vote" or "votes cast" on each of the proposals being submitted to a vote of PharmAthene stockholders and will have the effect of a vote "Against" a proposal or a "Withheld" vote.

Concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who in the aggregate beneficially owned approximately 7.5% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of July 31, 2013 (and approximately 7.6% as of October 4, 2013), entered into the PharmAthene Voting Agreement, pursuant to which each stockholder agreed to vote its shares of PharmAthene common stock in furtherance of the transactions contemplated by the Merger Agreement and against any amendment of PharmAthene's Certificate of Incorporation or Bylaws or any other proposal or transaction, the effect of which amendment or other proposal is to delay, impair, prevent or nullify the merger or the transaction contemplated by the Merger Agreement. In addition, each of these stockholders granted Theraclone an irrevocable proxy to vote their respective shares of PharmAthene common stock in accordance with the PharmAthene Voting Agreement.

**Solicitation of Proxies**

In addition to solicitation by mail, the directors, officers, employees and agents of PharmAthene may solicit proxies from PharmAthene stockholders by personal interview, telephone, telegram or other electronic means. PharmAthene will bear the costs of the solicitation of proxies by PharmAthene from PharmAthene stockholders. Arrangements also will be made with brokerage firms and other custodians, nominees and fiduciaries who are record holders of PharmAthene common stock for the forwarding of solicitation materials to the beneficial owners of PharmAthene common stock. PharmAthene will reimburse these brokers, custodians, nominees and fiduciaries for the reasonable out-of-pocket expenses they incur in connection with the forwarding of solicitation materials. PharmAthene has retained The Proxy Advisory Group, a proxy solicitation firm, to assist in the solicitation of proxies for the matters being submitted to PharmAthene stockholders for a fee of approximately $16,500.

**Other Matters**

As of the date of this proxy statement/prospectus/consent solicitation, the PharmAthene Board of Directors does not know of any business to be presented at the PharmAthene special meeting other than as set forth in the notice accompanying this proxy statement/prospectus/consent solicitation. If any other matters should properly come before the PharmAthene special meeting, or any adjournment or postponement of the PharmAthene special meeting, it is intended that the shares represented by proxies will be voted with respect to such matters in accordance with the best judgment of the person(s) voting the proxies, pursuant to the discretionary authority granted to such person(s).

## MATTERS BEING SUBMITTED TO A VOTE OF PHARMATHENE STOCKHOLDERS

The following matters are being submitted to a vote of PharmAthene stockholders:

(1) To consider and vote upon a proposal to approve the issuance of PharmAthene common stock in the merger contemplated by the Merger Agreement, a copy of which is attached as Annex A to this proxy statement/prospectus/consent solicitation;

(2) To consider and vote upon a proposal to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue;

(3) To elect nine persons to serve as directors until PharmAthene's next annual meeting of stockholders or until their respective successors are elected and qualified;

(4) To approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of the combined company; and

(5) To consider and vote upon a proposal to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

**PharmAthene Proposal No. 1 — The Issuance of Shares of PharmAthene Common Stock in the Merger**

At the PharmAthene special meeting, PharmAthene stockholders will be asked to approve the issuance of shares of PharmAthene common stock in the merger. Pursuant to the terms of the Merger Agreement, upon completion of the merger, Theraclone stockholders will have the right to receive, for each share of Theraclone common stock they hold, that number of shares of PharmAthene common stock, if any, as determined pursuant to the Exchange Ratio described in the Merger Agreement and in the section entitled "THE MERGER AGREEMENT — Merger Consideration."

Upon completion of the merger, PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis. If the merger had been completed on October 4, 2013, the record date for the PharmAthene special meeting, an aggregate of approximately 44,330,188 million shares of PharmAthene common stock would have been issuable to Theraclone stockholders upon completion of the merger, not including 9,728,325 shares of PharmAthene common stock issuable upon exercise of Theraclone options assumed by PharmAthene in the merger and not including 6,257,613 shares of PharmAthene common stock issuable upon exercise of Theraclone Warrants assumed by PharmAthene in the merger. PharmAthene stockholder approval of this Proposal No. 1 is required as a condition to the merger; accordingly, even if PharmAthene stockholders approve the other proposals, the merger will not be completed unless this Proposal No. 1 is also approved.

PharmAthene's Board of Directors believes that the issuance of shares of PharmAthene common stock in the merger is in the best interests of PharmAthene and its stockholders. If PharmAthene's stockholders do not approve this Proposal No. 1, the merger may not be completed and PharmAthene would be required to seek other strategic opportunities to deliver stockholder value.

The terms of, reasons for and other aspects of the Merger Agreement, the merger and the issuance of shares of PharmAthene common stock in the merger are described in detail in the other sections of this proxy statement/prospectus/consent solicitation. The full text of the Merger Agreement is attached to this proxy statement/prospectus/written consent as Annex A.

***Vote Required; Recommendation of the PharmAthene Board of Directors***

The affirmative vote of the holders of a majority of the shares of PharmAthene common stock entitled to vote on the proposal and present in person or represented by proxy, is required for approval of PharmAthene Proposal No. 1.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have no effect on the outcome of PharmAthene Proposal No. 1. For purposes of the vote on this PharmAthene Proposal No. 1, an abstention will have the same effect as a vote "AGAINST" such proposal.

**The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene's Proposal No. 1 to approve the issuance of shares of PharmAthene common stock in the merger.**

**PharmAthene Proposal No. 2 — Approval of an Amendment to PharmAthene's Certificate of Incorporation to Increase the Number of Shares of Common Stock That PharmAthene May Issue**

At the PharmAthene special meeting, PharmAthene stockholders will be asked to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene is able to issue. Pursuant to the terms of the Merger Agreement, upon completion of the merger, Theraclone stockholders will have the right to receive, for each share of Theraclone common stock they hold, that number of shares of PharmAthene common stock, as determined pursuant to the Exchange Ratio described in the Merger Agreement and in the section entitled "THE MERGER AGREEMENT — Merger Consideration."

To enable PharmAthene to effect the merger, PharmAthene's Board of Directors has recommended that the stockholders grant authority to PharmAthene's Board of Directors to effect an increase in the number of authorized shares of PharmAthene's common stock, par value $0.0001 per share, by 75,000,000 shares to a total of 175,000,000. PharmAthene expects to issue, or reserve for issuance, up to 60,316,126 shares of common stock in the merger, but currently has only 100,000,000 shares of common stock authorized with 52,310,913 shares outstanding as of the record date. PharmAthene stockholder approval of this Proposal No. 2 is required as a condition to the merger; accordingly, even if PharmAthene stockholders approve the other proposals, the merger will not be effected unless this Proposal No. 2 is also approved.

PharmAthene's Certificate of Incorporation currently authorizes PharmAthene to issue 100,000,000 shares of common stock, par value $0.0001 per share. On July 31, 2013, PharmAthene's Board of Directors approved an amendment to PharmAthene's Certificate of Incorporation that would increase the number of shares of common stock authorized for issuance from 100,000,000 to 175,000,000, subject to approval by PharmAthene's stockholders at the PharmAthene special meeting. The text of the proposed amendment to the Certificate of Incorporation would be as follows:

"Article FOURTH of the Certificate of Incorporation is hereby amended to read in its entirety as follows"

> "FOURTH: The total number of shares of all classes of capital stock which the Corporation shall have authority to issue is 176,000,000 of which 175,000,000 shares shall be Common Stock of the par value of $0.0001 per share and 1,000,000 shares shall be Preferred Stock of the par value of $0.0001 per share.
>
> A. Preferred Stock. The Board of Directors is expressly granted authority to issue shares of the Preferred Stock, in one or more series, and to fix for each such series such voting powers, full or limited, and such designations, preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions thereof as shall be stated and expressed in the resolution or resolutions adopted by the Board of Directors providing for the issue of such series, a Preferred Stock Designation, and as may be permitted by the DGCL. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of all of the then outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, without a separate vote of the holders of the Preferred Stock, or any series thereof, unless a vote of any such holders is required pursuant to any Preferred Stock Designation.

B. Common Stock. Except as otherwise required by law or as otherwise provided in any Preferred Stock Designation, the holders of the Common Stock shall exclusively possess all voting power and each share of Common Stock shall have one vote."

Assuming stockholder approval of PharmAthene Proposal No. 2, then following the filing of the Certificate of Amendment with the Delaware Secretary of State, in substantially the form attached hereto as Annex H, the total number of authorized shares of all classes of PharmAthene's capital stock would be 176,000,000, consisting of 175,000,000 shares of common stock and 1,000,000 shares of preferred stock. In that case, based on the number of outstanding PharmAthene and Theraclone securities as of October 4, 2013 and (i) without considering the issuance of PharmAthene securities in the merger, 52,310,913 shares of common stock would be outstanding and 11,610,392 shares of common stock would be issuable upon exercise of outstanding PharmAthene warrants and options and (ii) including the issuance of PharmAthene securities in the merger, 96,641,101 shares of common stock would be outstanding and 27,596,330 shares of common stock would be issuable upon exercise of outstanding PharmAthene and Theraclone warrants and options.

While PharmAthene is seeking separate stockholder approval of the increase in authorized shares of common stock in order to issue PharmAthene common stock in the merger, the increase also gives PharmAthene, on a post-merger basis, needed and appropriate flexibility to issue shares for future corporate and financing needs. The newly authorized shares of common stock may be issued by the combined company's Board of Directors in its discretion, subject to any further stockholder action required in the case of any particular issuance, including under PharmAthene's organizational documents, applicable law, agreements or contracts, regulatory authorities, and the rules of the NYSE MKT. The shares of common stock would be issuable for any proper corporate purpose, including without limitation, in the merger, in future capital raising transactions of equity or convertible debt securities, or upon exercise of currently outstanding warrants, upon future acquisitions or other investment opportunities, in connection with stock dividends, or under current or future equity compensation plans.

PharmAthene's Board of Directors believes that the increase in the number of shares of authorized common stock is in the best interests of PharmAthene and its stockholders. If PharmAthene's stockholders do not approve this Proposal No. 2, the merger may not be effected and PharmAthene would be required to seek other strategic opportunities to deliver stockholder value.

The additional 75,000,000 authorized shares of common stock will have rights identical to PharmAthene's currently authorized and outstanding shares of common stock. Accordingly, stockholder approval of PharmAthene Proposal No. 2 will not affect any rights of PharmAthene stockholders and par value will remain unchanged at $0.0001 per share. However, as PharmAthene intends to issue up to an estimated 60,316,126 shares of common stock in the merger, PharmAthene stockholders will experience immediate and significant dilution. See the section entitled "RISK FACTORS — Risks Related to the Proposed Merger."

***Vote Required; Recommendation of the PharmAthene Board of Directors***

The affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal, is required for approval of PharmAthene Proposal No. 2.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have the effect of a vote "AGAINST" PharmAthene Proposal No. 2. For purposes of the vote on this PharmAthene Proposal No. 2, an abstention will have the same effect as a vote "AGAINST" such proposal.

**The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene's Proposal No. 2 to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue.**

**PharmAthene Proposal No. 3 — Election of Directors**

Proposal No. 3 is for the election of nine directors to hold office until PharmAthene's next annual meeting of stockholders and until their respective successors have been duly elected and qualified. PharmAthene's Certificate of Incorporation provides that the number of directors of PharmAthene shall be fixed from time to time by PharmAthene's Board of Directors. The PharmAthene Board of Directors has fixed the number of directors at nine and has nominated and proposes the election of the following nominees as directors:

- Mitchel Sayare, Ph.D.
- John M. Gill
- Steven Gillis, Ph.D.
- Wende S. Hutton
- Steven P. James
- Brian A. Markison
- Eric I. Richman
- Derace L. Schaffer, M.D.
- Clifford J. Stocks

Steven Gillis, Ph.D., Wende S. Hutton, Steven P. James and Clifford J. Stocks are nominees of Theraclone, and Mitchel Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman and Derace L. Schaffer, M.D. are nominees of PharmAthene. Certain biographical information about the nominees is set forth below in the section entitled "MANAGEMENT OF THE COMBINED COMPANY."

Unless otherwise instructed, the proxy holders will vote the proxies received by them "FOR" all of the nominees named above. If any nominee is unable or unwilling to serve as a director at the time of the PharmAthene special meeting, the proxies will be voted for such other nominee(s) as shall be designated by the PharmAthene Board of Directors to fill any vacancy, consistent with the terms of the Board Composition Agreement. PharmAthene has no reason to believe that any nominee will be unable or unwilling to serve if elected as a director.

***Vote Required; Recommendation of the PharmAthene Board of Directors***

The affirmative vote of the holders of a plurality of the votes cast of the PharmAthene shares of common stock present at the PharmAthene special meeting in person or represented by proxy and entitled to vote on the proposal, is required for the approval of the election of each of the directors.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have no effect on the outcome of PharmAthene Proposal No. 1. For purposes of the vote on this PharmAthene Proposal No. 1, an abstention will have the same effect as a "WITHHOLD" vote.

**The PharmAthene Board of Directors recommends a vote FOR each of the nominees for director named in this proxy statement/prospectus/consent solicitation under Proposal No. 3.**

**PharmAthene Proposal No. 4 — Amendment to Bylaws Limiting the Ability of the Board of Directors to Remove the Chief Executive Officer**

At the PharmAthene special meeting, PharmAthene stockholders will be asked to approve an amendment to Article VII, Section 2 of PharmAthene's Bylaws limiting the ability of the Board of Directors to remove the Chief Executive Officer. Pursuant to the terms of the Merger Agreement, Theraclone's current Chief Executive Officer, Clifford J. Stocks, is expected to serve as the Chief Executive Officer of the combined company. The Merger Agreement obligates PharmAthene to amend its Bylaws to provide that Mr. Stocks may not be removed from his position as Chief Executive Officer of the combined company without the approval of at least 66 2/3% of the Board of Directors, until the earliest of: (i) July 31, 2015; (ii) such time as there is a period longer than 30 days in which less than five PharmAthene board designees serve on the PharmAthene Board of Directors; or (iii) the full settlement or final, non-appealable resolution of PharmAthene's civil action against SIGA, or the SIGA Resolution; provided, however, that, in the event that the SIGA Resolution occurs prior to the first anniversary of the completion of the merger, the SIGA Resolution will be deemed to have occurred on the first anniversary of the closing of the merger.

PharmAthene stockholder approval of this Proposal No. 4 is required as a condition to the merger; accordingly, even if PharmAthene stockholders approve the other proposals, the merger will not be effected unless this Proposal No. 4 is also approved.

Article VII, Section 2 of PharmAthene's Bylaws currently provides that each officer may be removed at any time, either with or without cause, by the vote of the majority of the entire Board of Directors. The text of the proposed amendment to Article VII, Section 2 of the Bylaws would be as follows:

"Article VII, SECTION 2 of the Bylaws is hereby amended to read in its entirety as follows:

'SECTION 2. ELECTIONS, TERM AND REMOVAL. Each officer shall be elected by the Board of Directors and shall hold office for such term, if any, as the Board of Directors shall determine. Any officer may be removed at any time, either with or without cause, by the vote of a majority of the entire Board of Directors; provided that Clifford J. Stocks may not be removed from his position as Chief Executive Officer of the Corporation without the approval of at least 66 2/3% of the Board of Directors, until the earliest of (a) July 31, 2015, (b) such time as there is a period longer than 30 days in which less than five members of the Board of Directors who was a member of the Board of Directors on July 31, 2013 serve on the Corporation's Board of Directors, and (c) the full settlement or final, non-appealable resolution of the Corporation's civil action against SIGA Technologies, Inc.; provided, however, that, in the event of that the SIGA Resolution occurs prior to the first anniversary of the completion of the business combination transaction with Theraclone Sciences, Inc., for purposes of this Section 2, the SIGA Resolution will be deemed to have occurred on the first anniversary of the completion of the business combination transaction with Theraclone Sciences, Inc."

PharmAthene's Board of Directors believes that this amendment to Article VII, Section 2 of PharmAthene's Bylaws is in the best interests of PharmAthene and its stockholders. If PharmAthene's stockholders do not approve this Proposal No. 4, the merger may not be effected and PharmAthene would be required to seek other strategic opportunities to deliver stockholder value.

***Vote Required; Recommendation of the PharmAthene Board of Directors***

The affirmative vote of the holders of a majority of the shares of PharmAthene common stock entitled to vote on the proposal and present in person or represented by proxy, is required for approval of PharmAthene Proposal No. 4.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have no effect on the outcome of PharmAthene Proposal No. 4. For purposes of the vote on this PharmAthene Proposal No. 4, an abstention will have the same effect as a vote "AGAINST" such proposal.

**The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene's Proposal No. 4 to approve an amendment to PharmAthene's Bylaws limiting the ability of the Board of Directors to remove the Chief Executive Officer.**

**PharmAthene Proposal No. 5 — Approval of Possible Adjournment of the PharmAthene Special Meeting**

PharmAthene is asking its stockholders to consider and vote upon a proposal to approve one or more adjournments of the PharmAthene special meeting, if necessary or appropriate.

If the number of shares of PharmAthene common stock present in person or represented by proxy at the PharmAthene special meeting voting in favor of each of PharmAthene Proposal Nos. 1 through 4 is insufficient to approve such proposal at the time of the PharmAthene special meeting, then PharmAthene may move to adjourn the PharmAthene special meeting in order to enable the PharmAthene Board of Directors to solicit additional proxies in respect of the proposal. In that event, PharmAthene stockholders will be asked to vote only upon the adjournment proposal, PharmAthene Proposal No. 5, and not on any other proposal.

In this proposal, PharmAthene is asking its stockholders to authorize the holder of any proxy solicited by the PharmAthene Board of Directors to vote in favor of granting discretionary authority to the proxy or attorney-in-fact to adjourn the PharmAthene special meeting one or more times for the purpose of soliciting additional proxies. If PharmAthene stockholders approve this PharmAthene Proposal No. 5, PharmAthene could adjourn the PharmAthene special meeting and any adjourned session of the PharmAthene special meeting and use the additional time to solicit additional proxies, including from PharmAthene stockholders that previously have returned properly executed proxies or authorized a proxy by using the Internet or telephone. Among other things, approval of PharmAthene Proposal No. 5 could mean that, even if

PharmAthene has received proxies representing a sufficient number of votes against the approval of each of PharmAthene Proposal Nos. 1 through 4, any such proposal would be defeated, PharmAthene could adjourn the PharmAthene special meeting without a vote on such proposal and seek to obtain sufficient votes in favor of such proposal to obtain approval of that proposal.

PharmAthene currently does not intend to propose adjournment at the PharmAthene special meeting if there are sufficient votes to approve PharmAthene Proposal Nos. 1 through 4.

***Vote Required; Recommendation of the PharmAthene Board of Directors***

The affirmative vote of the holders of a majority of the shares of PharmAthene common stock entitled to vote on the proposal and present in person or represented by proxy, is required for approval of PharmAthene Proposal No. 5.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have no effect on the outcome of PharmAthene Proposal No. 5. For purposes of the vote on this PharmAthene Proposal No. 5, an abstention will have the same effect as a vote "AGAINST" such proposal.

**The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene Proposal No. 5 to adjourn the special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of PharmAthene Proposal Nos. 1 through 4.**

## MATTERS TO BE PRESENTED TO THERACLONE'S STOCKHOLDERS

### Theraclone Stockholder Action by Written Consent

Theraclone's Board of Directors is providing this consent solicitation and consent solicitation materials to its stockholders. Theraclone's stockholders are being asked to execute and deliver the written consent furnished with this proxy statement/prospectus/consent solicitation to (i) approve the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby, including the Certificate of Merger to be filed with the Secretary of State of the State of Delaware referenced in the Merger Agreement, and (ii) approve the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

### Shares Entitled to Consent and Consent Required

Only Theraclone stockholders of record at the close of business on October 22, 2013 will be notified of and be entitled to execute and deliver a written consent. On the record date, the outstanding securities of Theraclone eligible to consent with respect to the proposals consisted of 2,335,152 shares of Theraclone common stock and an aggregate of 37,373,601 shares of Theraclone's Series A-1 and Series B-1 convertible preferred stock.

Under Theraclone's Amended and Restated Certificate of Incorporation, as amended, each holder of Theraclone common stock is entitled to one vote for each share of common stock held of record and each holder of Theraclone preferred stock is entitled to one vote for each share of common stock into which such share of preferred stock held of record is convertible.

Approval is required from (i) the holders of at least (a) a majority of the outstanding shares of Theraclone common stock and preferred stock, voting together as a single class on an as-converted-to-common stock basis and (b) a majority of the outstanding shares of the Theraclone preferred stock, voting together as a single class on an as-converted-to-common stock basis for the merger, the Merger Agreement and the transactions contemplated thereby and (ii) holders of at least a majority of the outstanding shares of Theraclone preferred stock, voting together as a single class, for the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

As of the record date, the directors and executive officers of Theraclone were, in the aggregate, beneficial owners of 67% of the outstanding shares of Theraclone common stock on as-converted-to-common stock basis entitled to execute and deliver the written consent. On July 31, 2013, certain of the major stockholders of Theraclone who owned approximately 27,724,939 shares, or approximately 75% of the outstanding shares of Theraclone common stock on as-converted-to-common stock basis, solely in their capacity as Theraclone stockholders, entered into the Theraclone Voting Agreement with PharmAthene in connection with the merger.

### Submission of Consents

You may consent to the proposal with respect to your shares by completing and signing the written consent furnished with this proxy statement/prospectus/consent solicitation and returning it to Theraclone on or before December 3, 2013, the date Theraclone has set as the targeted final date for receipt of written consents. Theraclone reserves the right to extend the final date for receipt of written consents beyond December 3, 2013 in the event that consents approving the merger and adopting and approving the Merger Agreement and the transactions contemplated thereby have not been obtained by that date from holders of a sufficient number of shares of Theraclone common stock and Theraclone preferred stock to satisfy the conditions to the merger. Any such extension may be made without notice to stockholders. Once all conditions to the merger have been satisfied or waived, the consent solicitation will conclude.

If you hold shares of Theraclone common stock or preferred stock as of the record date and you wish to give your written consent, you must complete the enclosed written consent, date and sign it, and promptly return it to Theraclone. Once you have completed, dated and signed the written consent, you may deliver it to Theraclone by faxing it to Theraclone's legal counsel, Fenwick & West LLP, Attention: Ellen Welichko, at (206) 389-4511, by emailing a .pdf copy of your written consent to ewelichko@fenwick.com, or by mailing your written consent to Fenwick & West LLP at 1191 Second Avenue, 10th Floor, Seattle, Washington 98101, Attention: Ellen Welichko.

**Executing Consents; Revocation of Consents**

With respect to each proposal for which the shares of Theraclone common stock and preferred stock that you hold allow you to give consent, you may execute a written consent to approve the proposal (which is equivalent to a vote for the proposal) or disapprove the proposal (which is equivalent to a vote against the proposal). If you do not return your written consent, it will have the same effect as a vote against the proposal. If you are a record holder and you return a signed written consent without indicating your decision on the proposal, you will have given your consent to approve the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby and if you hold any share of Theraclone preferred stock, the conversion of the shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis.

Your consent to the proposal may be changed or revoked at any time before the consents of a sufficient number of shares to approve and adopt such proposal have been received by Theraclone's legal counsel, Fenwick & West LLP, and filed with Theraclone's corporate secretary. If you wish to change or revoke a previously delivered consent before that time, you may do so by delivering a notice of revocation to Theraclone's legal counsel, Fenwick & West LLP, in the method specified above or by delivering a new written consent with a later date.

**Solicitation of Consents; Expense**

The expense of preparing, printing and mailing these consent solicitation materials is being borne by Theraclone. Theraclone's officers and employees may solicit consents by telephone and personally, in addition to solicitation by mail. These persons will receive their regular salaries but no special compensation for soliciting consents.

**Recommendation of the Theraclone Board**

**The Theraclone Board of Directors recommends that Theraclone stockholders approve the merger and adopt and approve the Merger Agreement and the transactions contemplated thereby and approve the conversion of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis by executing and delivering the written consent furnished with this proxy statement/prospectus/consent solicitation.** Theraclone's Board of Directors believes the merger consideration to Theraclone's stockholders is fair, advisable and in the best interests of Theraclone and its stockholders. Theraclone's management and its Board of Directors, after careful study and evaluation of the economic, financial, legal and other factors, also believe that the merger could provide the combined company with increased opportunity for expansion of its business, which in turn should benefit Theraclone's stockholders who become stockholders of PharmAthene. See the section entitled "THE MERGER — Theraclone Reasons for the Merger."

**Voting and Other Agreements**

Concurrently with and as a condition to PharmAthene's and Theraclone's entering into the Merger Agreement, on July 31, 2013, certain stockholders, directors and officers of Theraclone, holding, in the aggregate, approximately 75% of the outstanding shares of Theraclone capital stock, entered into the Theraclone Voting Agreement whereby they have agreed to vote their Theraclone shares in favor of the merger and refrain from selling any of the PharmAthene common stock they receive in the merger for six months following the Effective Time of the merger. For a more detailed discussion of these stockholder agreements see the sections entitled "VOTING AND OTHER AGREEMENTS — Voting and Lock-up Agreements" and "VOTING AND OTHER AGREEMENTS — Theraclone Post-Closing Lock-up Agreement."

## THE MERGER

*This section and the section entitled "The Merger Agreement" describe the material aspects of the merger, including the Merger Agreement. While PharmAthene and Theraclone believe that this description covers the material terms of the merger and the Merger Agreement, it may not contain all of the information that is important to you. You should read carefully this entire proxy statement/prospectus/consent solicitation for a more complete understanding of the merger and the Merger Agreement, including the attached Annexes, and the other documents to which you are referred herein. See the section entitled "Where You Can Find Additional Information."*

### General

The Merger Agreement provides that, at the Effective Time, Merger Sub, a wholly owned subsidiary of PharmAthene that was formed for the purpose of the merger, will merge with and into Theraclone, with Theraclone surviving the merger and becoming a wholly owned subsidiary of PharmAthene. After the merger, PharmAthene and its wholly owned subsidiary, Theraclone, will operate as a combined company.

At the Effective Time:

- each share of Theraclone common stock outstanding immediately prior to the Effective Time will automatically be converted into the right to receive a number of shares of PharmAthene common stock equal to the quotient obtained by dividing the fully diluted equity (as defined below) of PharmAthene by the fully diluted equity of Theraclone, less a pro rata share of PharmAthene common stock representing five percent of the merger consideration issuable to the stockholders of Theraclone, or the Escrow Shares, which will be held in escrow pursuant to the terms of the escrow agreement, as described in further detail below, except that holders of Theraclone common stock will receive cash in lieu of fractional shares;
- each option to purchase shares of Theraclone common stock outstanding and unexercised immediately prior to the Effective Time will be assumed by PharmAthene and will become an option to purchase that number of shares of the common stock of the combined company equal to the product of (i) the number of Theraclone shares of common stock underlying the option and (ii) the quotient obtained by dividing the fully diluted equity of PharmAthene by the fully diluted equity of Theraclone; and
- each warrant to purchase shares of Theraclone capital stock outstanding and not terminated or exercised immediately prior to the Effective Time will be assumed by PharmAthene and will become a warrant to purchase that number of shares of PharmAthene common stock equal to the product of (i) the number of Theraclone shares of capital stock underlying the warrant and (ii) the quotient obtained by dividing the fully diluted equity of PharmAthene by the fully diluted equity of Theraclone.

Fully diluted equity means, with respect to PharmAthene, the total number of shares outstanding of PharmAthene common stock, assuming full conversion or exercise of all then-outstanding options and warrants, which, in each case, have an exercise price less than or equal to $2.50 per share, and convertible securities, and with respect to Theraclone, the total number of shares outstanding of Theraclone common stock, assuming full conversion or exercise of all then-outstanding options and warrants and all convertible securities.

Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the

combined company, on a fully diluted basis. The Escrow Shares described above, which will serve to secure the Theraclone stockholders' indemnification obligations under the Merger Agreement, will be deposited with Citibank, N.A., as escrow agent under a separate escrow agreement to be entered into prior to the completion of the Merger. The escrow period will expire nine months from the date of completion of the merger.

The merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code.

PharmAthene stockholders will continue to own their existing shares of PharmAthene common stock after the merger. Each share of PharmAthene common stock will continue to represent one share of PharmAthene common stock, but the issuance of shares of PharmAthene common stock to Theraclone stockholders in the merger will significantly reduce the percentage ownership of PharmAthene represented by each share of PharmAthene common stock.

The closing of the merger will take place as promptly as practicable after the day on which the last of the conditions to the merger set forth in the Merger Agreement has been satisfied or waived (if permissible), unless PharmAthene and Theraclone agree to a different date. However, because the merger is subject to a number of conditions, neither PharmAthene nor Theraclone can predict exactly when the closing will occur or if it will occur at all. See "THE MERGER AGREEMENT — Conditions to Completion of the Merger" for a more complete description of the conditions that must be satisfied or, if permissible, waived before closing.

**Background of the Merger**

PharmAthene's strategic objective has been to become a premier global company specializing in the development and commercialization of prophylactic and therapeutic drugs for defense against biological and chemical threats and emerging infectious diseases. The rapidly changing legal and regulatory landscape governing the approval, manufacture and marketing of biopharmaceutical products, as well as challenges resulting from the U.S. government budget process, have affected the timing of, funding for PharmAthene's products. PharmAthene has continually reviewed its current and prospective business strategy and prospects for continued growth in the context of these evolving challenges. In the past, as a result of such reviews, PharmAthene has acquired other companies and products, including the biodefense assets of Avecia Biologics Limited, to diversify and expand its product offerings and business. Additionally, PharmAthene set a strategic objective to diversify its pipeline to address emerging infectious diseases.

On June 23, 2011, PharmAthene's board of directors determined, as part of its regular review of PharmAthene's business strategy and in light of the above considerations, to engage Leerink's, as PharmAthene's exclusive financial advisor to assist PharmAthene in identifying, evaluating and pursuing a broad range of potential strategies to optimize stockholder value. Following Leerink's engagement, PharmAthene, its Board of Directors, and the Board of Directors' strategic transaction committee considered and met several times to discuss a number of potential combinations with, or acquisitions of, other companies, including large, mid and small-capitalization biopharmaceutical companies, as well as other forms of strategic alliances.

Building on prior work done by PharmAthene, between June 23, 2011 and July 2013, Leerink and PharmAthene management screened potential candidates world-wide for a broad range of potential strategic transactions and evaluated potential collaborators based on strategic fit, product pipeline synergy and relative values of product lines. During this time, PharmAthene, either directly or through Leerink, contacted approximately 25 potential counterparties regarding a potential strategic transaction. Several of these counterparties executed confidential disclosure agreements with PharmAthene, received confidential information with respect to PharmAthene and its business and conducted due diligence.

One area of high interest to PharmAthene during the portion of the process that involved evaluating potential acquisition targets was products for the treatment or prevention of influenza. These types of products were considered to be a strong fit for PharmAthene due to their potential applications to both commercial and government markets. PharmAthene identified a product candidate which met these criteria being developed by Theraclone. In April 2009, Dr. Jeffrey Jones, then the Director of Business Development of PharmAthene, met with Dr. Matthew Moyle the then Chief Scientific Officer of Theraclone. Subsequently, between April 2011

and October 2011, representatives of the managements of both PharmAthene and Theraclone had a small number of discussions about their respective businesses and products.

Since Theraclone's inception, its Board of Directors and management team have been regularly evaluating its business and operations, long-term strategic goals and alternatives, and prospects as an independent company. Theraclone's Board of Directors and management team have regularly reviewed and assessed trends and conditions impacting Theraclone and its industry, changes in the marketplace and applicable law, the competitive environment and Theraclone's future prospects. As part of the ongoing review of Theraclone and its position in its industry, Theraclone's Board of Directors also regularly reviews the strategic alternatives available to Theraclone, including possible strategic combinations, acquisitions and divestitures.

In February 2013, Clifford J. Stocks, Theraclone's Chief Executive Officer, commenced a process to select a financial advisor to advise Theraclone with respect to a potential business combination.

On February 14, 2013, representatives of Leerink met with representatives of Theraclone at Leerink's Global Health Care Conference and discussed, in part, a potential transaction involving Theraclone and PharmAthene.

As part of its review of potential strategic alternatives, on March 6, 2013, PharmAthene directed a representative of Leerink to contact a representative of Theraclone.

On March 28, 2013, Mr. Stocks was introduced to Dr. Jones, now PharmAthene's Senior Director, Corporate Development. Mr. Stocks and Dr. Jones made arrangements to meet together with Eric Richman, PharmAthene's Chief Executive Officer.

On April 3, 2013, Mr. Richman and Dr. Jones engaged in a telephone conversation with Mr. Stocks, during which Mr. Stocks provided a technical and business overview of Theraclone. During this conversation PharmAthene learned of the status of Theraclone's influenza program, and the significant progress that had been made in Theraclone's pipeline, and commercial collaborations Theraclone had entered into regarding lead monoclonal antibodies generated under its I-STAR technology platform.

On April 5, 2013, Theraclone and PharmAthene entered into a confidentiality agreement.

On April 15, 2013, Messrs. Stocks and Richman and Dr. Jones met in person in Washington, DC. During the meeting, the parties discussed the strategic rationale for a potential business combination between PharmAthene and Theraclone. The parties agreed during the meeting to further consider a potential business transaction between the companies and to speak within the coming weeks.

On April 29, 2013, Mr. Stocks provided Mr. Richman with certain information, including a corporate presentation regarding Theraclone for Mr. Richman to present to PharmAthene's Board of Directors.

On April 29, 2013, Theraclone selected Healthios Capital Partners LLC as its financial advisor to identify, evaluate and assist in pursuing strategic alternatives. From May 2013 through July 2013, Healthios contacted approximately 50 potential counterparties regarding a potential strategic transaction with Theraclone. Several of these counterparties executed confidentiality disclosure agreements with Theraclone and received confidential information regarding Theraclone's product candidates and technology. During this time, Theraclone's management and its Board of Directors considered partnering and licensing programs with pharmaceutical companies, in addition to a potential business combination transaction.

On May 6, 2013, PharmAthene provided Theraclone with a non-binding letter of interest regarding a potential merger of the companies. Mr. Stocks conferred initially with Steven Gillis, Ph.D., a member of Theraclone's Board of Directors, regarding the draft terms in the non-binding letter of interest and thereafter conveyed the contents of the draft terms to the other members of Theraclone's Board of Directors. Informal discussions about the leadership of a combined PharmAthene/Theraclone also occurred, during which Mr. Richman indicated that he would be open to the possibility that Mr. Stocks would serve as Chief Executive Officer of the combined company.

On May 9, 2013, Messrs. Richman and Stocks discussed the potential business combination transaction and selected May 16, 2013 for a mutual management presentation via teleconference.

On May 15, 2013, each of PharmAthene and Theraclone agreed to inform Peter A. Patriarca, M.D., Senior Clinical Consultant at Biologics Consulting Group, Inc., and consultant to each of PharmAthene and Theraclone, of the potential business combination transaction to facilitate the diligence with respect to their respective research and development programs and regulatory activities.

On May 16, 2013, management from PharmAthene and Theraclone convened telephonically to present their respective businesses. During this meeting, there were detailed discussions relating to the possible benefits of combining the two companies as well as an extensive discussion regarding PharmAthene's on-going litigation with SIGA. Virtual data rooms were established to permit both sides to review documents in key areas of their respective businesses.

From May 16 to July 2013, PharmAthene, Theraclone and their respective advisors conducted technical, business, intellectual property and legal due diligence. As part of this mutual diligence process, multiple meetings took place between Theraclone and PharmAthene management and their respective advisors.

Also from May 16, 2013 to July 2013, multiple discussions between Dr. Sayare, Chairman of the Board of PharmAthene, and Dr. Gillis, as well as Mr. Richman and Mr. Stocks were held regarding potential deal structures, financial and business terms, and governance of a proposed merger.

On May 25, 2013, PharmAthene's outside counsel sent Theraclone and its outside counsel a draft merger agreement. The parties engaged in preliminary negotiations concerning the draft merger agreement.

On May 29, 2013, there were further conversations with scientific and technical personnel of each of PharmAthene and Theraclone regarding regulatory strategy, clinical trial design and the manufacturing of Theraclone's monoclonal antibodies.

On May 30, 2013, PharmAthene was informed, and on May 31, 2013 PharmAthene informed Theraclone that the U.S. Food and Drug Administration had lifted the clinical hold on PharmAthene's proposed Phase 2 SparVax clinical trial.

On May 30, 2013, a call was held with PharmAthene's clinical advisor, Dr. James Mond, PharmAthene technical personnel, including Drs. Morges, Jones and Elliott and Mr. Richman and Dr. Peter Patriarca of the Biologics Consulting Group, to discuss Theraclone's influenza antiviral and the clinical data from the Phase II clinical trial.

On June 5, 2013, an in person due diligence meeting took place in Seattle, Washington at Theraclone's offices. The meeting was attended by Mr. Richman and Dr. Jones, Linda Chang, Francesca Cook, Wayne Morges, Jordan Karp, Tim Roesing and Arthur Elliott (by phone) of PharmAthene as well as Cliff Stocks, Witold Cieplak, Ph.D., Kristine Swiderek, Ph.D., Russ Hawkinson, and Eleanor Ramos, M.D., of Theraclone along with other Theraclone personnel and representative of the financial advisors to both companies. During this meeting, detailed technical reviews covered both the PharmAthene and Theraclone programs, as well as a facility tour.

From June 6, 2013 through June 12, 2013, PharmAthene's management interviewed Theraclone's key opinion leaders for the influenza program, including Penelope Ward, M.D., a third party influenza expert engaged by Theraclone to review clinical data associated with the influenza program. Additionally, discussions were held with key opinion leaders regarding Theraclone's cytomegalovirus, or CMV, program.

On June 10, 2013, PharmAthene received a non-binding indication of interest, contingent on confidentiality. PharmAthene's Board of Directors considered the terms of interest, which were subsequently revised and, in each case, determined they were inadequate in significant respects and directed management to so advise the party.

On June 11, 2013, during a regularly scheduled PharmAthene Board of Directors meeting, PharmAthene's management and Leerink updated the PharmAthene Board of Directors on their progress in evaluating a potential merger with Theraclone. Leerink presented the PharmAthene Board of Directors with an update concerning other strategic alternatives available to PharmAthene. The PharmAthene Board of Directors, after discussions, authorized PharmAthene's management and financial and legal advisors to continue discussions and negotiations with Theraclone. At the same meeting on June 11, 2013, Steven St. Peter, a

member of PharmAthene's Board of Directors, reminded the PharmAthene Board of Directors that he had formerly been employed as a Managing Director of MPM, which was, directly or through one or more affiliates, a stockholder of Theraclone but that he no longer was affiliated with MPM. He disclosed further to the PharmAthene Board of Directors that he was the Chief Executive Officer of Aratana Pharmaceuticals, Inc., of which MPM and one or more affiliates thereof, is a stockholder. He reminded the PharmAthene Board of Directors that he did not and would not engage in any conversations with representatives of MPM with respect to a proposed transaction with Theraclone. The PharmAthene Board of Directors determined that Dr. St. Peter's continued involvement in discussions evaluating the transaction and the financial aspects and business aspects of Theraclone's operations and strategic alternatives were in the best interest of PharmAthene. Mr. Richman informed the PharmAthene Board of Directors that neither he, Leerink, nor any other representatives of PharmAthene, had had any conversations with MPM relating to the transaction. The PharmAthene Board of Directors directed management to complete diligence and negotiate a merger agreement.

On June 11, 2013, other meetings occurred between PharmAthene scientific and technical personnel, PharmAthene's outside clinical advisor, and Dr. Ward. A financial due diligence call also occurred on June 11, 2013 attended by Linda Chang, Chief Financial Officer of PharmAthene, representatives of Leerink and Theraclone's financial advisor, Healthios, Mr. Hawkinson and Mr. Stocks.

From June 17, 2013 through July 30, 2013, with the exception of July 9, 2013 to July 11, 2013, Theraclone and PharmAthene, together with their respective outside legal counsel and financial advisors engaged in negotiations regarding the terms of the merger agreement and the ancillary transaction agreements, including the computation of the exchange ratio, Theraclone's indemnification obligations, an additional financing by Theraclone's existing stockholders, non-solicitation provisions, management of the combined company, treatment of stock options and warrants in the merger, employee benefits following the merger, conditions to each party's obligation to complete the merger, termination rights and termination fees, and representations, warranties and covenants of the parties. Final agreement on these and other issues was reached over the course of numerous discussions involving members of Theraclone and PharmAthene management and their legal teams.

On June 20, 2013, in response to a request by Mr. Richman, Mr. Stocks prepared and delivered to Mr. Richman a summary of certain future milestones associated with Theraclone's business to be integrated into a presentation by Mr. Richman to PharmAthene's strategic transactions committee of its Board of Directors.

On July 2, 2013, Dr. Gillis and Dr. Sayare met telephonically to discuss the proposed terms of a merger between the two companies.

On July 8, 2013, PharmAthene's management and Leerink updated the strategic transactions committee of PharmAthene's Board of Directors and on their preliminary due diligence reviews of Theraclone, including due diligence findings with respect to the lead products and the benefits of a merger for the stockholders of the PharmAthene. Following this meeting, the strategic transactions committee instructed a representative of Leerink to contact a representative of Theraclone's financial advisor, Healthios, to renegotiate the exchange ratio for the merger consideration such that, upon the completion of a merger, PharmAthene stockholders would hold sixty percent of the combined company. Mr. Richman also discussed this with Mr. Stocks. After this conversation, Mr. Stocks conferred with Mr. Richman to discuss Theraclone's response to PharmAthene's negotiating position. During this meeting, Mr. Stocks informed Mr. Richman that Theraclone would insist that the exchange ratio result in equal ownership of the combined company, consistent with all prior discussions between the two companies. Mr. Stocks then instructed Theraclone's management team and its advisors to cease working on the transaction while this issue was negotiated. Mr. Richman communicated Theraclone's position to PharmAthene's Board of Directors. The PharmAthene Board of Directors instructed management and its advisors to do a full valuation analysis of Theraclone independently and prepare a full comparative analysis.

From July 9, 2013 through July 11, 2013, Messrs. Stocks and Richman reviewed and discussed the terms of the proposed merger, including, among other things, the exchange ratio, and, on July, 11, 2013, Drs. Gillis and Sayare agreed that Dr. Sayare would present Theraclone's proposal of equal ownership of the combined

company to PharmAthene's Board of Directors at its July 15, 2013 Board of Directors meeting. Also on July 11, 2013, Mr. Stocks instructed Theraclone's management team and its advisors to re-commence working on the transaction.

On July 15, 2013, PharmAthene's Board of Directors of PharmAthene met with Dentons US LLP, outside counsel to PharmAthene. Dentons reviewed and discussed with the PharmAthene Board of Directors members their fiduciary duties in considering and evaluating potential strategic transactions, including the one proposed by Theraclone, discussed potential conflicts of interest and the PharmAthene Board of Directors' responsibilities with respect thereto.

On July 16, 2013, Mr. Stocks, Mr. Hawkinson, Wende S. Hutton, a member of Theraclone's Board of Directors, and David Loucks of Healthios Capital Partners LLC met with members of PharmAthene's management in the corporate offices of PharmAthene to conduct diligence and discuss the proposed terms of a merger. The discussions included corporate governance, management, updates on proposed business and financial terms and the financial strength of the companies. Ms. Hutton proposed that certain members of PharmAthene's Board of Directors remain on the combined company's Board of Directors and requested that Eric Richman remain on the combined company's Board of Directors. She also requested that Linda Chang assist the new management team with the transition.

On July 17, 2013, in response to a request by Mr. Richman, Mr. Stocks prepared and delivered to Mr. Richman a summary of Theraclone's I-STAR technology, TCN-032 clinical data and commercial positioning, TCN-202 clinical data and commercial positioning, an overview of the collaboration with Pfizer and an overview of Theraclone's internal early stage pipeline of drug candidates to be integrated into a presentation by Mr. Richman to PharmAthene's Board of Directors.

On July 18, 2013, Theraclone's Board of Directors held a special telephonic meeting to discuss extensively the status of the proposed combination transaction with PharmAthene and negotiations related to the merger. At this Theraclone Board of Directors meeting, Theraclone's management was directed to continue to negotiate and evaluate the transaction with PharmAthene.

PharmAthene's Board of Directors met during the evening of July 18, 2013 and held a special meeting on July 19, 2013 to discuss extensively the status of the proposed transaction with Theraclone and negotiations related to the proposed merger. The discussions included a final technical diligence report, full valuation analysis as requested on April 29, 2013, updates on the proposed business and financial terms of the merger, including Theraclone's proposed exchange ratio, which was approved at the meeting, the possibility of providing for contingent value rights tied to the SIGA litigation, the composition of the Board of Directors of the combined company, the companies, respective financial strength and the desire that the existing stockholders of Theraclone invest $4,000,000 of additional capital (that had been previously committed) into Theraclone prior to the consummation of the merger. The PharmAthene Board of Directors provided instructions to its legal and financial advisor with respect to specific negotiating positions relating to the composition of the combined company's Board of Directors, possible contingent value rights tied to the SIGA litigation, termination fees (including those relating to resolution of the SIGA litigation) and other matters, including executive compensation.

From July 20, 2013 through July 21, 2013, Dr. Gillis, Ms. Hutton and Messrs. Stocks and Loucks convened telephonically to discuss the status of the proposed combination transaction with PharmAthene and negotiations related to the merger.

On July 24, 2013, Messrs. Richman and Stocks extensively negotiated the termination rights and termination fees in the merger agreement.

On July 25, 2013, Messrs. Richman and Stocks and Drs. Gillis and Sayare extensively discussed the board composition of the combined company, including Dr. Sayare's continued service as chairman of the Board of Directors of PharmAthene following the merger.

On July 28, 2013, PharmAthene proposed that the exchange ratio be modified to exclude certain out-of-the-money derivative securities. Also on July 28, 2013, Theraclone's Board of Directors held a special telephonic meeting to discuss extensively the status of the proposed combination transaction with

PharmAthene and negotiations related to the merger. At this Theraclone Board of Directors meeting, PharmAthene requested changes to the exchange ratio to exclude certain out-of-the-money derivative securities, was extensively discussed and, after such discussion, was determined to be agreeable.

On July 30, 2013, following the receipt by PharmAthene of the revised draft of the merger agreement from counsel to Theraclone, the strategic transactions committee of the PharmAthene Board of Directors met by telephone and provided direction to management and Leerink to seek specific additional and alternative terms in the merger agreement.

On July 31, 2013, Theraclone's Board of Directors held a special telephonic meeting to consider the proposed merger between Theraclone and PharmAthene and to vote on the merger agreement and related matters. Mr. Stocks and a representative of Fenwick & West LLP, outside legal counsel to Theraclone, presented an overview of the proposed transaction with PharmAthene. Theraclone's Board of Directors engaged in extensive discussion regarding the proposed transaction and asked questions of and received answers from, Theraclone's management and advisors. Following these discussions, Theraclone's Board of Directors unanimously determined, among other things, that the merger agreement and the proposed merger contemplated thereby were advisable and in the best interests of Theraclone and its stockholders and resolved to recommend that Theraclone's stockholders approve the proposed merger and all other transactions contemplated thereby.

On July 31, 2013, the PharmAthene Board of Directors held a special telephonic meeting to consider the proposed merger between PharmAthene and Theraclone and to vote on the merger agreement and related agreements. Representatives of Dentons US LLP reminded the members of PharmAthene's Board of Directors of previous discussions relating to their fiduciary duties in evaluating the merger certain relationships and provided a detailed summary of the terms of the proposed merger agreement and related agreements. Representatives of Dentons and Leerink also responded to questions from members of the PharmAthene Board of Directors. At the meeting, a representative from Leerink delivered certain of its analyses and its opinion to the PharmAthene Board of Directors to the effect that, subject to various assumptions, qualifications and limitations, as of July 31, 2013, the consideration to be paid by PharmAthene in the merger, pursuant to the merger agreement was fair, from a financial point of view to PharmAthene and its stockholders. The written opinion of Leerink is attached to this joint proxy statement/prospectus/consent solicitation as Annex F. Following these discussions and after review and discussion among the members of PharmAthene's Board of Directors, PharmAthene's Board of Directors unanimously determined, among other things, that the merger agreement and the proposed merger contemplated thereby were advisable and in the best interest of PharmAthene and its stockholders and resolved to recommend that PharmAthene stockholders approve the issuance of shares of PharmAthene common stock in connection with the proposed merger and all other actions required or contemplated be taken by the merger agreement.

Also on July 31, 2013, certain Theraclone stockholders executed stockholder agreements and irrevocable proxies with PharmAthene, and certain PharmAthene stockholders executed stockholder agreements and irrevocable proxies with Theraclone. After the close of trading markets on July 31, 2013, Theraclone and PharmAthene executed and delivered to each other the merger agreement.

**PharmAthene Reasons for the Merger**

In evaluating the merger and the Merger Agreement, the PharmAthene Board of Directors consulted with PharmAthene's management and legal, financial and other advisors and, in reaching its decision to approve the merger and enter into the Merger Agreement, the PharmAthene Board of Directors considered a number of factors, including the following material factors which the PharmAthene Board of Directors viewed as generally supporting its decision to approve the merger and the Merger Agreement:

- Historical and current information concerning PharmAthene's business, financial performance, financial condition, operations, management, and competitive position, the prospects of PharmAthene and its products, the nature of the biodefense industry generally, including financial projections of PharmAthene under various scenarios and its short- and long-term strategic objectives and the related risks and the belief that the combination of PharmAthene's and Theraclone's businesses would create more value for PharmAthene stockholders in the long-term than PharmAthene could create as an independent, stand-alone company.

- The viability of strategic alternatives if the proposed merger with Theraclone does not occur, in light of, among other things, PharmAthene's financial prospects, the likelihood of other business combinations or other strategic transactions and access to the capital needed to continue successful operations, and the belief that the proposed merger with Theraclone would provide PharmAthene's stockholders with a greater potential opportunity to realize a return on their investment than any other alternative reasonably available to PharmAthene and its stockholders.
- One of such alternatives, which was rejected as less attractive, was the consideration of a spin-off to PharmAthene stockholders of rights that PharmAthene may have as a result of the SIGA litigation.
- Historical and current information concerning Theraclone's business, financial performance, financial condition, operations and management and the results of a due diligence investigation of Theraclone conducted by PharmAthene's management and advisors.
- The opportunity for PharmAthene's stockholders to participate in the potential future value of the combined company, including future potential value from Theraclone's technology and other assets.
- Historical and current financial market conditions and stock prices and historical stock prices and trading volumes of PharmAthene common stock.
- The factors affecting the business of PharmAthene described in "RISK FACTORS — Risks Related to PharmAthene."
- The exchange ratio in the merger, which is intended to result in PharmAthene security holders holding approximately 50% of the outstanding equity of the combined company immediately after completion of the merger on an as converted and fully diluted basis but excluding PharmAthene options and warrants with an exercise price greater than $2.50 per share.
- The all-stock nature of the merger and the intent that the merger be tax-free to PharmAthene stockholders.
- The possible effect of a transaction with Theraclone on PharmAthene's settlement negotiations with respect to its litigation.
- The fiduciary duties of PharmAthene officers and directors to PharmAthene stockholders.
- The terms and conditions of the Merger Agreement, including, without limitation, the following:
  - The structure of the merger and the level of certainty as to the percentage of the total shares of common stock of the combined company that PharmAthene and Theraclone stockholders will own immediately after the merger, which will not be adjusted to reflect changes in the market value of PharmAthene common stock or Theraclone common stock or the amount of net cash of PharmAthene.
  - The provisions in the Merger Agreement that limit the ability of PharmAthene to solicit and respond to offers for alternative transactions, but which allow PharmAthene to respond to a bona fide acquisition proposal that the PharmAthene Board of Directors determines is or is reasonably likely to lead to a superior proposal, subject to certain restrictions imposed by the Merger Agreement, which provisions the PharmAthene Board of Directors believes are reasonable under the circumstances.
  - The requirement to hold a special meeting of PharmAthene stockholders to vote on the approval of the issuance of shares of PharmAthene common stock in the merger and other matters described in the section entitled "THE MERGER AGREEMENT" and Stockholder Approval below, even if the PharmAthene Board of Directors subsequently changes its recommendation, notwithstanding the ability of the PharmAthene Board of Directors, in accordance with its fiduciary duties, to withdraw, modify or amend its recommendation that PharmAthene stockholders vote in favor of the approval of the issuance of shares of PharmAthene common stock in the merger, which such provisions the PharmAthene Board of Directors believes are reasonable under the circumstances.

- The relatively limited nature of the closing conditions.
- The conditions under which the Merger Agreement may be terminated by either party and the conclusion of the PharmAthene Board of Directors that the potential break-up fee of $3.5 million payable by PharmAthene to Theraclone if (a) PharmAthene terminates the Merger Agreement because it has entered into a definitive agreement providing for a PharmAthene Superior Proposal, as described in further detail in the section entitled "THE MERGER AGREEMENT — No Solicitation" below, (b) the potential break-up fee of $4.5 million payable by PharmAthene to Theraclone if the PharmAthene board changes its voting recommendations to PharmAthene stockholders or PharmAthene terminates the Merger Agreement because the Court of Chancery of the State of Delaware has rendered a substantive decision on the merits in that certain litigation matter between PharmAthene and SIGA Technologies, Inc. and the PharmAthene Board of Directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the merger a merger of equals, and (c) the potential termination fee of up to $1.0 million payable by PharmAthene to Theraclone, are reasonable.
- The restrictions on the ability of certain Theraclone stockholders to freely trade some or all of the shares of PharmAthene common stock that they receive in connection with the merger for a period of up to one year following completion of the merger.
- The escrow of five percent of the merger consideration for nine months following closing to provide a fund for payment of any losses to PharmAthene or its affiliates arising from breaches by Theraclone of its representations and warranties, subject to a deductible of $1.0 million.
- The belief that the parties' respective representations, warranties and covenants, and conditions to their respective obligations, are reasonable under the circumstances.

- The voting agreements entered into by certain stockholders of Theraclone representing approximately 75% of the outstanding shares of Theraclone capital stock, as of July 31, 2013, pursuant to which such stockholders agreed, solely in their capacity as stockholders, to vote all of their shares of Theraclone capital stock in favor of adoption of the Merger Agreement and against any alternative acquisition proposal.
- The fact that the Board of Directors of PharmAthene after the merger will be composed of five PharmAthene nominees and four Theraclone nominees.
- The opinion of Leerink, and its financial presentation, dated July 31, 2013, to the PharmAthene Board of Directors as to the fairness, from a financial perspective, as of the date of the opinion to PharmAthene of the exchange ratio, as described more fully in the section entitled "THE MERGER — Opinion of Leerink Swann" below.

The PharmAthene Board of Directors weighed the factors described above, which the PharmAthene Board of Directors viewed generally as supporting its decision to approve the merger and the Merger Agreement, against a number of other factors identified in its deliberations weighing negatively against the merger, including, without limitation, the following material factors:

- The fact that the shares of PharmAthene common stock to be issued in the merger will represent approximately 45.9% of the outstanding common stock of the combined company immediately after completion of the merger based on the number of securities of each company outstanding on October 4, 2013 and assuming no PharmAthene or Theraclone option or warrants are exercised prior to the completion of the merger, thus causing PharmAthene stockholders as of immediately prior to completion of the merger to experience immediate and significant dilution in their equity interests and voting power of PharmAthene upon completion of the merger, including, without limitation, their interest in any resolution of the on-going litigation with SIGA.
- The risks, uncertainties and other challenges facing the Theraclone programs described in more detail in "RISK FACTORS — Risks Related to Theraclone."

- The fact that, while PharmAthene expects the merger to be completed, there can be no assurance that all conditions to the parties' obligations to complete the merger, including PharmAthene obtaining stockholder approval of the issuance of the PharmAthene common stock in the merger, will be satisfied within the time frames contemplated by the Merger Agreement, especially since some of the conditions are outside the control of PharmAthene, and, as a result, the merger may not be completed.
- The amount of time required to complete the merger, the possibility that the merger may not be completed and the potential adverse consequences to PharmAthene if the merger is not completed, including the potential adverse effect on the reputation of PharmAthene, the potential to depress the values offered by others to PharmAthene in a business combination or other alternative transaction and the ability of PharmAthene to obtain financing in the future.
- The risk that the per share value of the consideration to be paid in the merger to the Theraclone stockholders could increase significantly from the value prior to the announcement of the Merger Agreement because the exchange ratio will not be adjusted for changes in the market price of the PharmAthene common stock or the fair market value of Theraclone capital stock.
- The possible negative effect of the public announcement of the merger on PharmAthene's stock price and the possible volatility in PharmAthene common stock that may occur during the pendency of the merger.
- The possibility that the anticipated benefits of the merger may not be realized or that they may be lower than expected.
- The likely substantial limitation on the ability of the combined company to utilize PharmAthene's pre-merger net operating loss and tax credit carryforwards.
- The substantial costs to be incurred in connection with the merger, including transaction expenses that would be incurred whether or not the merger is completed, and severance payments to certain PharmAthene executive officers triggered by the closing of the transaction.
- The risk of diverting the attention of PharmAthene's management from other strategic priorities to implement the merger and make arrangements for the integration of each company's operations and infrastructure following the merger.
- The risk that PharmAthene's revenue forecasts are not attained at the level or within the timeframe expected.
- The risks, challenges and costs associated with successfully integrating two companies, with separate operations and locations.
- The potential loss of key PharmAthene employees critical to the ongoing success of the combined company's business.
- The requirement under the Merger Agreement that PharmAthene call and hold a vote of PharmAthene stockholders to approve the merger and related proposals, even in circumstances where the PharmAthene Board of Directors has withdrawn or adversely changed its recommendation to PharmAthene stockholders with respect to such proposals in response to a superior proposal.
- The ability of the PharmAthene stockholders and management to significantly influence the combined company's business following completion of the merger.
- The restrictions on the conduct of PharmAthene's business prior to completion of the merger, which require PharmAthene to carry on its business in the ordinary course and consistent with past practice, subject to specific additional restrictions, which may delay or prevent PharmAthene from pursuing business opportunities that otherwise would be in its best interests as an independent, stand-alone company.
- The risk of stockholder lawsuits that may be filed against PharmAthene and/or the PharmAthene Board of Directors in connection with the Merger Agreement.

- The substantial transaction costs and expenses that have been incurred to date and likely will be incurred in connection with the merger.
- The other risks of the type and nature described under “RISK FACTORS” and the matters described under “CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS.”

After consideration of these factors, the PharmAthene Board of Directors determined that these risks could be mitigated or managed by PharmAthene or Theraclone or by the combined company following the merger, were reasonably acceptable under the circumstances or, in light of the anticipated benefits, that these risks were unlikely to have a materially adverse impact on the merger or on the combined company following the merger, and that, overall, these risks were significantly outweighed by the potential benefits of the merger.

Although this discussion of the information and factors considered by the PharmAthene Board of Directors is believed to include the material factors considered by the PharmAthene Board of Directors, it is not intended to be exhaustive and may not include all of the factors considered by the PharmAthene Board of Directors. In reaching its determination to approve the merger and adopt and approve the Merger Agreement, the PharmAthene Board of Directors did not find it useful and did not attempt to quantify or assign any relative or specific weights to the various factors that it considered in reaching its determination that the merger and the Merger Agreement are advisable and fair to and in the best interests of PharmAthene and its stockholders. Rather, the PharmAthene Board of Directors based its position and determination on the totality of the information presented to and factors considered by it. In addition, individual members of the PharmAthene Board of Directors may have given differing weights to different factors.

In considering the determination by the PharmAthene Board of Directors that the merger and the Merger Agreement are advisable and fair to and in the best interests of PharmAthene and its stockholders, stockholders should be aware that certain PharmAthene directors and officers have arrangements that may cause them to have interests in the transaction that are different from, in addition to, or may conflict with the interests of PharmAthene stockholders generally. See “THE MERGER— Interests of PharmAthene’s Directors and Officers in the Merger.”

**Theraclone Reasons for the Merger**

Theraclone’s Board of Directors approved the merger with PharmAthene based on a number of factors, including the following:

- the expectation that the merger with PharmAthene would be a more time- and cost-effective means to access sufficient capital than other options considered, including an initial public offering or additional rounds of private equity financing;
- the view that the range of options available to the combined company to access private and public equity markets will likely be greater as a public company than continuing as a privately held company;
- the view that the combined company will have an increased ability to attract and retain technical talent compared to a privately held company;
- the view that the combined company’s diversified pipeline of product candidates, research capabilities, government contracting expertise, access to opportunities for non-dilutive funding and other synergies creates a superior company when compared to remaining as an independent private company;
- the strategic alternatives of Theraclone to the merger, including remaining an independent private company, attempting an initial public offering, entering into a business combination transaction with an alternative company and additional strategic partnerships;
- the terms and conditions of the Merger Agreement, including the following related factors:
    - the determination that the relative percentage ownership of Theraclone and PharmAthene stockholders is fair and based on the valuations of each company at the time of Theraclone’s Board of Directors’ approval of the Merger Agreement;

- the expectation that the merger will be treated as a reorganization for U.S. federal income tax purposes, with the result that in the merger, Theraclone's stockholders will generally not recognize taxable gain or loss for U.S. federal income tax purposes;
- the potential termination fees payable to Theraclone if PharmAthene terminates the Merger Agreement, including the potential termination fee of $3.5 million if PharmAthene terminates the Merger Agreement because it enters into a definitive agreement providing for a PharmAthene Superior Proposal, as described in further detail in the section entitled "THE MERGER AGREEMENT — No Solicitation" below, and the potential termination fee of $4.5 million if PharmAthene terminates the Merger Agreement because the Court of Chancery of the State of Delaware renders a substantive decision on the merits in the litigation matter between PharmAthene and SIGA and the PharmAthene Board of Directors determines that, as a result of such decision, it can no longer consider the merger a merger of equals;
- the view that the terms of the Merger Agreement, including the parties' representations, warranties and covenants, and the conditions to their respective obligations, are reasonable under the circumstances;
- the likelihood that the merger will be consummated on a timely basis, including the likelihood that the merger will receive all necessary approvals;
- the opportunity for Theraclone stockholders to hold shares of a publicly traded company; and
- the possibility that the combined entity would be able to take advantage of the potential benefits resulting from the combination of PharmAthene's public company infrastructure and Theraclone's management team.

In the course of its deliberations, Theraclone's Board of Directors also considered a variety of risks and other countervailing factors related to entering into the Merger Agreement, including:

- the substantial expenses to be incurred in connection with the merger;
- the risk that the merger might not be consummated in a timely manner or at all and the potential adverse effect on the reputation of Theraclone of the public announcement of the merger or on the delay or failure to complete the merger;
- the trading price of the combined company's common stock may be subject to significant fluctuations and volatility;
- expenses and obligations to which the combined company would be subject as a result of being a public company that could adversely affect the combined company's operating results and preclude the achievement of some of the benefits anticipated from the merger;
- the risk to the business of Theraclone, operations and financial results in the event that the merger is not consummated in a timely manner or at all; and
- various other risks associated with the combined company and the merger, including those described in the section entitled "RISK FACTORS" in this proxy statement/prospectus/consent solicitation.

The foregoing information and factors considered by Theraclone's Board of Directors are not intended to be exhaustive but are believed to include all of the material factors considered by Theraclone's Board of Directors. Theraclone's Board of Directors conducted an overall analysis of the factors described above, including thorough discussions with Theraclone's legal and financial advisors, and considered the factors overall to be favorable to, and to support, its determination to approve the merger and to recommend that Theraclone's stockholders approve the merger with PharmAthene and the related transactions.

**Opinion of Leerink Swann**

Pursuant to an engagement letter dated May 6, 2013, PharmAthene engaged Leerink to render an opinion with respect to the fairness, from a financial point of view, of the consideration to be paid in connection with a possible merger or acquisition involving PharmAthene. At a meeting of PharmAthene's Board of Directors on July 31, 2013, Leerink rendered its oral opinion to PharmAthene's Board of Directors, confirmed by

delivery of a written opinion dated July 31, 2013, that, as of such date and based upon and subject to the factors, assumptions, qualifications and limitations set forth in its written opinion, the exchange ratio was fair, from a financial point of view, to the holders of PharmAthene common stock (other than Theraclone and its affiliates).

The full text of the written opinion of Leerink, dated July 31, 2013, which sets forth, among other things, the assumptions made, qualifications, procedures followed, matters considered and limitations on the review undertaken by Leerink in connection with the opinion, is attached as Annex FA hereto, and is incorporated herein by reference. The summary of the opinion set forth herein is qualified in its entirety by reference to the full text of the opinion. PharmAthene and Theraclone encourage you to read the entire opinion carefully and in its entirety. Leerink provided its opinion for the benefit and use of PharmAthene's Board of Directors in its consideration of the transaction, and its opinion is directed only to the fairness, from a financial point of view, to the holders of PharmAthene common stock (other than Theraclone and its affiliates) of the exchange ratio, as of the date of the opinion. The Leerink opinion does not constitute an opinion as to the merits of the merger or the prices at which shares of PharmAthene common stock will trade at any time, and is not a recommendation to any holder of PharmAthene common stock as to how such holder should vote with respect to the merger, or any other matter.

In connection with rendering the opinion described above and performing its related financial analyses, Leerink reviewed and considered such financial and other information as it deemed relevant, including, among other things:

(i) a draft of the Merger Agreement, dated July 30, 2013;

(ii) certain financial and other business information of Theraclone and PharmAthene furnished to Leerink by the managements of Theraclone and PharmAthene, respectively;

(iii) published estimates of independent research analysts with respect to the future financial performance and price targets of PharmAthene;

(iv) certain periodic reports and other publicly available information regarding PharmAthene;

(v) comparisons of certain publicly available financial data of companies whose securities are traded in the public markets and that Leerink deemed relevant to similar data for Theraclone and PharmAthene;

(vi) certain estimates as to the amount and timing of cost savings and related expenses anticipated by the management of PharmAthene to result from the merger, or the Synergies; and

(vii) such other information, financial studies, analyses and investigations and such other factors that Leerink deemed relevant for the purposes of its letter and opinion.

In addition, Leerink held discussions with members of senior management and representatives of PharmAthene concerning the matters described in clauses (ii) through (vii) above, as well as the businesses and prospects of Theraclone and PharmAthene.

In conducting its review and analysis and in arriving at its opinion, Leerink, with PharmAthene's consent, assumed and relied, without independent investigation, upon the accuracy and completeness of all financial and other information provided to Leerink, or publicly available. Leerink did not undertake any responsibility for independently verifying, and did not independently verify the accuracy, completeness or reasonableness of any such information. With respect to financial forecasts for PharmAthene and Theraclone, and the estimated Synergies that were provided to Leerink, Leerink was advised, and assumed, with PharmAthene's consent, that such forecasts and estimated Synergies were reasonably prepared in good faith on the basis of reasonable assumptions and reflected the best currently available estimates and judgments of PharmAthene and Theraclone, respectively, as to the future financial condition and performance of PharmAthene and Theraclone and the synergies estimated to be derived from the merger. Leerink expressed no opinion with respect to such forecasts or estimates or the assumptions upon which they were based. Leerink assumed, with PharmAthene's consent, that the future cash flows of PharmAthene which may result from its pending litigation with SIGA Technologies, Inc. would be equal to the damages awarded by the Delaware Chancery Court in its judgment dated May 31, 2012 (which was

subsequently remanded by the Delaware Supreme Court on May 24, 2013 for reconsideration) then discounted to present value using a discount rate of 15% and applying a 90% probability of success to such forecasts, with Leerink, with PharmAthene's consent, also (a) assuming that SIGA would not make any further sales of Arestvyr™ following completion of delivery of product under its current supply contract with the U.S. government and (b) applying the post-judgment positions taken by SIGA as to the allocation of costs to Arestvyr™ and timing of sales (positions PharmAthene disputes). Leerink expressed no opinion with respect to the amount of such future revenues or the assumptions upon which such revenues are based. Leerink did not make or obtain any independent evaluations, valuations or appraisals of the assets or liabilities (contingent or otherwise) of Theraclone or PharmAthene, nor was Leerink furnished with such materials.

Leerink did not make any independent investigation of any legal, accounting or tax matters relating to PharmAthene or Theraclone, and assumed the correctness of all legal, accounting and tax advice given to Theraclone and PharmAthene.

For purposes of rendering its opinion, Leerink assumed in all respects material to the analysis, that the consideration to be received in the merger was determined through arm's-length negotiations between the appropriate parties, that the representations and warranties of each party contained in the Merger Agreement are true and correct, that each party will perform all of the covenants and agreements required to be performed by it under the Merger Agreement without material alteration or waiver thereof, that all governmental, regulatory or other consents and approvals necessary for the consummation of the merger will be obtained without any adverse effect on the expected benefits of the merger in any way meaningful to the analysis and that all conditions to the consummation of the proposed merger will be satisfied without waiver thereof or material alteration to the terms of the proposed merger. Leerink assumed, with PharmAthene's consent, that the fully diluted equity of PharmAthene as of the date of its opinion was 59,221,000 shares and the fully diluted equity of Theraclone as of the date of its opinion was 51,687,000 shares, resulting in an exchange ratio of approximately 1.1458 shares of PharmAthene common stock for each share of Theraclone common stock, and that there would be no change (other than a de minimis change) in the fully diluted equity of PharmAthene or Theraclone after the date of its opinion. Leerink also assumed, with PharmAthene's consent, that the final form of the Merger Agreement would be substantially the same as the last draft reviewed by Leerink. In addition, Leerink assumed, with PharmAthene's consent, that the historical financial statements of Theraclone and PharmAthene reviewed by Leerink had been prepared and fairly presented in accordance with U.S. GAAP consistently applied. Leerink further assumed, with PharmAthene's consent, that as of the date of its opinion, there had been no material adverse change in Theraclone's or PharmAthene's assets, financial condition, results of operations, business or prospects since the date of the last audited financial statements made available to Leerink which change had not been disclosed to Leerink prior to the date of its opinion.

Leerink was not requested to opine as to, and its opinion does not express any opinion as to (i) the value of any employee agreement or other arrangement entered into in connection with the proposed merger, or (ii) any tax or other consequences that might result from the proposed merger and related transactions. Furthermore, Leerink expressed no opinion with respect to, the amount or nature of compensation to any officer, director or employee of any party to the transactions contemplated by the Merger Agreement, or any class of such persons, relative to the consideration to be paid by PharmAthene in the merger or with respect to the fairness of any such compensation.

Leerink's opinion relates solely to the fairness of the exchange ratio to the holders of PharmAthene common stock (other than Theraclone and its affiliates), and its opinion does not address PharmAthene's underlying business decision to proceed with or effect the proposed merger or any other term, aspect or implication of the proposed merger or any other agreement or arrangement entered into in connection with the proposed merger. Leerink was not requested to opine as to, and its letter and opinion do not in any manner address, the fairness of the merger or the exchange ratio to the holders of any class of securities (other than the PharmAthene common stock) or creditors or any other constituency of PharmAthene. Leerink is not expressing any opinion as to the impact of the merger on the solvency or viability of PharmAthene or Theraclone or the ability of PharmAthene or Theraclone to pay its obligations when they come due. In addition, Leerink's letter and opinion do not address any legal or accounting matters, as to which Leerink

understood that PharmAthene had obtained such advice as it has deemed necessary from qualified professionals. Leerink did not express any opinion as to the prices at which shares of the PharmAthene common stock may trade at any time.

Leerink's opinion was necessarily based upon economic and market conditions and other circumstances as they existed and could be evaluated by Leerink on the date of its opinion. It should be understood that although subsequent developments may affect Leerink's opinion, Leerink does not have any obligation to update, revise or reaffirm Leerink's opinion and Leerink expressly disclaims any responsibility to do so.

Leerink's opinion was intended for the benefit and use of Board of Directors of PharmAthene in its consideration of the proposed merger. Leerink's letter and opinion do not constitute a recommendation of the merger to PharmAthene's Board of Directors nor do they constitute a recommendation to any holder of PharmAthene common stock as to how such holder should vote with respect to the merger or otherwise. Leerink's opinion was authorized by Leerink's Fairness Opinion Review Committee.

The following is a summary of the material financial analyses utilized by Leerink and presented to PharmAthene's Board of Directors by Leerink in connection with rendering its opinion. The following summary, however, does not purport to be a complete description of the financial analyses performed by Leerink, nor does the order of analyses described represent relative importance or weight given to those analyses by Leerink. Some of the summaries of the financial analyses include information presented in tabular format. The tables must be read together with the full text of each summary and alone are not a complete description of Leerink's financial analyses. Considering the following data without considering the full narrative description of the financial analyses, including the methodologies and assumptions underlying the analyses, could create a misleading or incomplete view of Leerink's financial analyses. Except as otherwise noted, the following quantitative information, to the extent that it is based on market data, is based on market data as it existed on or before July 29, 2013 and is not necessarily indicative of current market conditions.

*Selected Publicly Traded Companies Analysis*

To provide contextual data and comparative market information, Leerink compared certain operating and financial information for Theraclone to the corresponding operating and financial information of certain other development stage biopharma companies, whose securities are publicly traded. The selected companies and metrics that Leerink reviewed were the following:

| Company | Market Value ($mm) | Enterprise Value ($mm) |
|---|---|---|
| BioCryst Pharmaceuticals | $ 232.8 | $ 234.5 |
| Dynavax Technologies | $ 232.6 | $ 127.2 |
| Tetraphase Pharmaceuticals | $ 161.7 | $ 97.3 |
| Galena Biopharma | $ 152.2 | $ 124.6 |
| KaloBios Pharmaceuticals | $ 142.6 | $ 75.6 |
| Biota Pharmaceuticals | $ 105.4 | $ 35.1 |

Although none of the selected companies is directly comparable to Theraclone, the companies included were chosen because they are publicly traded companies with operations that, for purposes of analysis, may be considered similar to certain operations of Theraclone.

Leerink calculated and compared various financial metrics for each of the selected companies based on closing stock prices as of July 29, 2013, and publicly available financial data from SEC filings and FactSet consensus estimates as of that date. With respect to each of the selected companies, Leerink calculated:

- market value, which is the diluted equity value using the treasury stock method based on outstanding options, warrants and restricted shares units; and
- enterprise value, which is the diluted equity value using the treasury stock method based on outstanding options, warrants and restricted shares units, plus the value of such company's indebtedness and minority interests and preferred stock, minus such company's cash, cash equivalents and marketable securities, in each case, as of such company's latest SEC filing prior to July 29, 2013.

*Illustrative Sum of the Parts Analysis*

Leerink performed an illustrative sum of the parts analysis on Theraclone consisting of (i) a discounted cash flow analysis on Theraclone' two development stage product candidates using the financial forecasts for Theraclone provided by management of Theraclone and provided by management of PharmAthene, calculated based on the forecasted free cash flows of each product from 2013 through 2028, discounted to present value using a discount rate of 15% and applying a range of probabilities of success to such forecasts ranging from 25% to 35%, (ii) an estimate of the net present value for Theraclone's pre-clinical programs based upon assumed potential future milestone payments associated with such programs using a discount rate of 15% and applying a range of probabilities of success to such programs and (iii) adding to the sum of the amounts derived from the analyses in (i) and (ii) above the net cash of Theraclone. The following table presents the results of this analysis:

| | |
|---|---|
| Illustrative Equity Value – PharmAthene Case | $42mm - $86mm |
| Illustrative Equity Value – Theraclone Case | $85mm - $152mm |

In addition, because PharmAthene proposes to use shares of PharmAthene common stock as the form of consideration in the merger, Leerink conducted a similar financial analysis on the value of PharmAthene's common stock. The following is a summary of the material financial analyses utilized by Leerink and presented to PharmAthene's Board of Directors by Leerink in connection with rendering its opinion.

*Selected Publicly Traded Companies Analysis*

To provide contextual data and comparative market information, Leerink compared certain operating and financial information for PharmAthene to the corresponding operating and financial information of certain other companies in the biodefense industry, whose securities are publicly traded. The selected companies and metrics that Leerink reviewed were the following:

| Company | Market Value ($mm) | Enterprise Value ($mm) |
|---|---|---|
| Bavarian Nordic A/S | $ 280.6 | $ 223.1 |
| SIGA Technologies Inc. | $ 174.1 | $ 154.3 |
| Cangene Corp. | $ 143.8 | $ 105.3 |
| Biota Pharmaceuticals Inc. | $ 105.4 | $ 35.1 |
| Cleveland Biolabs Inc. | $ 74.3 | $ 53.4 |

Although none of the selected companies is directly comparable to PharmAthene, the companies included were chosen because they are publicly traded companies with operations that, for purposes of analysis, may be considered similar to certain operations of PharmAthene.

Leerink calculated and compared various financial metrics for each of the selected companies and for PharmAthene based on closing stock prices as of July 29, 2013, and publicly available financial data from SEC filings and FactSet consensus estimates as of that date. With respect to PharmAthene and each of the selected companies, Leerink calculated:

- market value, which is the diluted equity value using the treasury stock method based on outstanding options, warrants and restricted shares units; and
- enterprise value, which is the diluted equity value using the treasury stock method based on outstanding options, warrants and restricted shares units, plus the value of such company's indebtedness and minority interests and preferred stock, minus such company's cash, cash equivalents and marketable securities, in each case, as of such company's latest SEC filing prior to July 29.

*Illustrative Sum of the Parts Analysis*

Leerink performed an illustrative sum of the parts analysis on PharmAthene consisting of (i) a discounted cash flow analysis of PharmAthene's existing products using the financial forecasts for PharmAthene provided by management of PharmAthene, calculated based on the forecasted free cash flows of each product from 2013 through 2021, discounted to present value using a discount rate of 15% and applying a range of probabilities of success to such forecasts, (ii) a discounted cash flow analysis of the future cash flows to PharmAthene which may result from its pending litigation with SIGA Technologies, Inc., and which aggregated, undiscounted cash flows Leerink calculated to be approximately $74.2 million, an amount

determined, with PharmAthene's consent, assuming the cash flows would be equal to the damages awarded by the Delaware Chancery Court in its judgment dated May 31, 2012 (which was subsequently remanded by the Delaware Supreme Court on May 24, 2013 for reconsideration) then discounted to present value using a discount rate of 15% and applying a 90% probability of success to such forecasts, with Leerink, with PharmAthene's consent, also (a) assuming that SIGA would not make any further sales of Arestvyr™ following completion of delivery of product under its current supply contract with the U.S. government and (b) applying the post-judgment positions taken by SIGA as to the allocation of costs to Arestvyr™ and timing of sales (positions PharmAthene disputes) and (iii) adding to the sum of the amounts derived from the analyses in (i) and (ii) above the net cash of PharmAthene. The following table presents the results of this analysis:

| | |
|---|---|
| Illustrative Equity Value / Equity Value per share of PharmAthene Common Stock | $89mm / $1.72 |

Leerink noted that the valuation of PharmAthene is highly dependent upon the outcome of the SIGA Technologies, Inc. litigation described above, that the outcome of this litigation is inherently uncertain, and that there is no assurance as to the value that will ultimately be realized by PharmAthene as a result of this litigation.

*General*

The foregoing summary of certain material financial analyses does not purport to be a complete description of the analyses or data presented by Leerink. The preparation of a fairness opinion is a complex process involving various determinations and subjective judgments as to the most appropriate and relevant methods of financial analysis and the application of those methods to the particular circumstances. Therefore, such an opinion and the analyses used in arriving at such an opinion are not readily susceptible to partial analysis or summary description. Selecting portions of the analyses or of the summary set forth above, without considering the analyses as a whole, could create an incomplete view of the processes underlying Leerink's opinion. In arriving at its fairness determination, Leerink considered the results of all of its analyses and did not attribute any particular weight to any factor or analysis considered by it. Rather, Leerink made qualitative judgments as to the significance and relevance of each analysis and factor on the basis of its experience and professional judgment after considering the results of all of its analyses. Accordingly, notwithstanding the separate factors summarized above, Leerink believes, and has advised PharmAthene's Board of Directors, that its analysis must be considered as a whole and that selecting portions of the analyses and the factors considered by it, without considering all analyses and factors, could create an incomplete view of the processes underlying Leerink's opinion.

In performing its analyses, Leerink made numerous assumptions with respect to industry performance, business and economic conditions and other matters, many of which are beyond the control of PharmAthene. The analyses performed by Leerink based upon forecasts of future results are not necessarily indicative of actual future results, which may be significantly more or less favorable than suggested by these analyses. In addition, analyses relating to the value of businesses do not purport to be appraisals nor do they necessarily reflect the prices at which businesses or securities actually may be acquired. Accordingly, as such analyses and estimates are inherently subject to uncertainty, being based upon numerous factors or events beyond the control of the parties or their respective advisors, neither PharmAthene nor Leerink nor any other person assumes responsibility if future results are materially different from those forecast. No company or transaction used in the above analyses as a comparison is directly comparable to Theraclone or PharmAthene or the contemplated Transaction. None of PharmAthene, Leerink or any other person assumes responsibility if future results are materially different from those projected. The analyses supplied by Leerink and its opinion were among several factors taken into consideration by PharmAthene's Board of Directors in making its decision to enter into the Merger Agreement and should not be considered determinative of such decision.

Leerink prepared these analyses for purposes of Leerink's providing its opinion to PharmAthene's Board of Directors as to the fairness from a financial point of view of the exchange ratio to the holders of PharmAthene common stock (other than Theraclone and its affiliates). The exchange ratio was determined through arm's-length negotiations between PharmAthene and its representatives, on the one hand, and Theraclone and its representatives, on the other hand. Leerink provided advice to PharmAthene during these

negotiations. Leerink did not, however, recommend any specific exchange ratio to PharmAthene or its Board of Directors or suggest that any specific exchange ratio constituted the only appropriate exchange ratio for the Transaction.

The decision by PharmAthene's Board of Directors to approve the merger and enter into the Merger Agreement was solely that of PharmAthene's Board of Directors. As described in the foregoing, Leerink's opinion to PharmAthene's Board of Directors was one of many factors taken into consideration by PharmAthene's Board of Directors in making its determination to approve the Merger Agreement and the Transaction contemplated by the merger.

Leerink is an investment banking firm focused exclusively on healthcare. Leerink is recognized as a leading investment bank for both emerging and established healthcare companies. Leerink, as part of its investment banking business, is continually engaged in the valuation of businesses and securities in connection with business combinations and acquisitions and for other purposes. Leerink was selected by PharmAthene due to its substantial experience in the healthcare industry and with transactions similar to this transaction.

Leerink is a full-service securities firm engaged in securities trading and brokerage activities as well as investment banking and financial advisory services. In the ordinary course of its trading and brokerage activities, Leerink or its affiliates have in the past and may in the future hold positions, for its own account or the accounts of its customers, in equity, debt or other securities of PharmAthene, Theraclone or their respective affiliates.

Leerink acted as financial advisor to PharmAthene in connection with, and participated in certain of the negotiations leading to, the Transaction contemplated by the Merger Agreement. In connection with unrelated matters, Leerink has acted as underwriter in connection with PharmAthene's registered direct offering in June 2011. From June 15, 2011 to July 31, 2013, Leerink has received fees for such services aggregating approximately $377,960 from PharmAthene. Additionally, in the ordinary course of business, Leerink and its affiliates may, in the future, provide commercial and investment banking services to PharmAthene or its affiliates. In connection with such services, Leerink and/or its affiliates may, in the future, receive customary compensation. Leerink has not provided any services to, or received fees from, Theraclone during the past two years prior to the date of its opinion.

Pursuant to the Leerink engagement letter, in connection with the merger, Leerink will be entitled to receive a transaction fee equal to approximately $1,000,000 that is contingent upon consummation of the merger. A fee of $500,000 (credited against the ultimate transaction fee payable upon closing) became payable upon Leerink's delivery of its fairness opinion. Additionally, PharmAthene has agreed to reimburse Leerink for its out-of-pocket expenses, including attorney's fees, and has agreed to indemnify Leerink against certain liabilities. The terms of the fee arrangement with Leerink, which are customary in transactions of this nature, were negotiated at arm's length between Leerink and PharmAthene, and PharmAthene's Board of Directors was aware of the arrangement, including the fact that the transaction fee payable to Leerink is contingent upon the completion of the merger pursuant to the Merger Agreement.

**Interests of PharmAthene's Directors and Executive Officers in the Merger**

In considering the recommendation of the PharmAthene Board of Directors to PharmAthene stockholders to vote in favor of the issuance of shares of PharmAthene common stock in the merger, and the other matters to be acted upon by PharmAthene stockholders at the PharmAthene special meeting, PharmAthene stockholders should be aware that members of the PharmAthene Board of Directors and PharmAthene's executive officers have interests in the merger that may be different from, in addition to, or may conflict with the interests of PharmAthene stockholders. These interests relate to or arise from, among other things:

- The fact that Mitchel Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman and Derace L. Schaffer, M.D., each of whom is a current director of PharmAthene, will continue to serve on the Board of Directors of the combined company following completion of the merger and will receive cash and equity compensation in connection with such service as described in more detail below.

- The fact that current members of PharmAthene's Board of Directors who resign upon the completion of the merger will receive director fees at current levels for a full quarter following the date of their resignation (expected to be immediately prior to the Effective Time), even though they may not remain on the Board of Directors through that date.
- Severance benefits to which each of Eric I. Richman and Linda L. Chang will become entitled in connection with completion of the merger, as described in more detail below.
- New employment agreements for all other executive officers that are expected to increase the duration of the period during which they would receive severance benefits following a termination without cause or for good reason from six to twelve months.
- The accelerated vesting of all PharmAthene stock options held by the departing directors and executive officers of PharmAthene upon completion of the merger as described in more detail below.
- The right to continued indemnification and insurance coverage for directors and executive officers of PharmAthene following completion of the merger, pursuant to the terms of the Merger Agreement, as described in more detail below.

The PharmAthene Board of Directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the merger and the issuance of shares of PharmAthene common stock, and to recommend that PharmAthene stockholders approve the issuance of shares of PharmAthene common stock in the merger and related matters. Other than full disclosure of these potential conflicts of interest, the PharmAthene Board of Directors did not take any other steps to alleviate such potential conflicts of interest since it did not consider such potential conflicts of interest to be material in connection with its decision to approve the Merger Agreement and the transactions contemplated thereby, including the merger and the issuance of shares of PharmAthene common stock.

**Ownership Interests**

As of October 4, 2013, the latest practicable date before the filing of this proxy statement/prospectus/consent solicitation, directors, executive officers and a key employee of PharmAthene, together with their respective affiliates, owned, in the aggregate, and were entitled to vote 1,496,972 shares of PharmAthene common stock, or approximately 2.9% of the shares of PharmAthene common stock outstanding on that date. Assuming the merger had been completed as of such date, all directors and executive officers and a key employee of PharmAthene, together with their respective affiliates, would own, in the aggregate, 1.4% of the outstanding shares of common stock of the combined company.

For a more complete discussion of the ownership interests of the directors and executive officers of PharmAthene, see the sections entitled "PRINCIPAL STOCKHOLDERS OF PHARMATHENE" and "PRINCIPAL STOCKHOLDERS OF THE COMBINED COMPANY."

**Continuing Directors**

Following completion of the merger, continuing directors Mitchel Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman and Derace L. Schaffer, M.D., are expected to receive cash and equity compensation in accordance with PharmAthene's equity compensation policies for non-employee directors. Currently, PharmAthene's policy provides:

- annual cash retainer for membership on the PharmAthene Board of Directors is $40,000, which may, at the election of each director, be paid in cash or equity (in the form of non-qualified stock options and/or restricted stock awards);
  - non-qualified stock options issued in lieu of the cash retainer vest in equal quarterly installments over the period of one year and are valued pursuant to a Black-Scholes calculation using the same assumptions PharmAthene used for stock option expense calculations in PharmAthene's then most recently filed quarterly report on Form 10-Q;
  - restricted stock awards issued in lieu of the cash retainer vest in equal quarterly installments over the period of one year and are valued at their fair market value on the date of grant;

- $25,000 additional cash retainer for the Chairman of the PharmAthene Board of Directors;
- $15,000 cash retainer for the Audit Committee chair;
- $5,000 cash retainer for membership on the Audit Committee (other than Audit Committee chair);
- $12,000 cash retainer for the Compensation Committee chair;
- $3,000 cash retainer for membership on the Compensation Committee (other than Compensation Committee chair);
- $10,000 cash retainer for the Governance and Nominating Committee chair;
- $2,500 cash retainer for membership on the Governance and Nominating Committee (other than Governance and Nominating Committee chair);
- $10,000 cash retainer for the Government Affairs Committee chair; and
- $2,500 cash retainer for membership on the Government Affairs Committee (other than Government Affairs Committee chair).

No other cash fees are payable to non-employee board members for their service on the PharmAthene Board of Directors.

In addition, every non-employee member of PharmAthene's Board of Directors is entitled annually to receive an option to purchase 20,000 shares of PharmAthene's common stock on the date of PharmAthene's annual meeting of stockholders, at an exercise price per share based on the closing price of PharmAthene's common stock on the grant date as reported on the NYSE MKT.

In addition to the above compensation, upon initially joining the PharmAthene Board of Directors, a member is entitled to receive an option to purchase 20,000 shares of common stock, at an exercise price per share based on the closing price of PharmAthene's common stock on the grant date as reported on the NYSE MKT.

**Executive Officer Employment Agreements and Severance and Change in Control Agreements**

Upon completion of the merger and the anticipated termination of their employment on the date following completion of the merger, Eric I. Richman and Linda L. Chang will be entitled to receive certain severance payments and other benefits or payments, as applicable, each as more fully described below. PharmAthene intends to establish a rabbi trust to hold funds to pay the severance amounts owed to Mr. Richman and Ms. Chang that are subject to the six-month suspension rule under Section 409A of the Internal Revenue Code of 1986. It is currently anticipated that PharmAthene's other executive officers will continue to be employed by PharmAthene following the Merger.

**Employment Agreements**

***Eric I. Richman***

Mr. Richman was appointed PharmAthene's President and Chief Operating Officer on March 25, 2010, PharmAthene's interim Chief Executive Officer on May 2, 2010, and PharmAthene's Chief Executive Officer on October 20, 2010. On December 23, 2010, PharmAthene entered into a new employment agreement with Mr. Richman, for the period commencing on January 1, 2011 and ending on the first anniversary of such date. The term of the agreement is automatically extended for an additional year on each anniversary unless 90 days' prior written notice of non-extension is provided, provided that a nonrenewal by PharmAthene is treated as a termination without cause under the agreement. On July 31, 2013 PharmAthene's Board of Directors approved an amendment to Mr. Richman's employment agreement, which will become effective immediately prior to the closing of the merger (and only if the merger closes).

Under the agreement, Mr. Richman is paid an annual base salary of $435,000, subject to annual review and increase at the option of the Compensation Committee of PharmAthene's Board of Directors. Effective January 1, 2013, Mr. Richman's base salary was increased to $456,187. Mr. Richman is also eligible for an annual cash bonus, the target of which is no less than 60% of his base salary, based on the achievement of

certain corporate objectives. The corporate objectives will be determined by the Compensation Committee in consultation with Mr. Richman, while the achievement of such objectives will be determined by the Compensation Committee.

Pursuant to the agreement, as of December 23, 2010, Mr. Richman was granted an option, under PharmAthene's 2007 Long-Term Incentive Compensation Plan, as amended, or the 2007 Plan to purchase 225,000 shares of PharmAthene's common stock at an exercise price of $3.91 per share, the closing price of PharmAthene's common stock on the NYSE MKT on December 23, 2010. The option, which has a term of ten years, vests over a four-year period with 25% vesting on the first, second, third and fourth anniversaries of the grant date. In the event of a change in control during Mr. Richman's employment period and a termination other than for cause or a termination for good reason occurs on or within twelve months of the consummation of the change in control, all equity issued by PharmAthene held by Mr. Richman and not then vested (except for the restricted stock awards which are treated as described below) will immediately and fully vest.

In accordance with the agreement, Mr. Richman received a cash bonus for 2010 of $105,000. In addition, as of December 23, 2010, Mr. Richman was granted 35,000 shares of restricted stock of PharmAthene under the 2007 Plan, which vested in full on the three month anniversary of the grant date.

Under the terms of the agreement, if Mr. Richman is terminated other than for cause or he resigns for good reason, he is entitled to receive, in addition to unpaid salary and expenses and payment of accrued incentive compensation amounts: (i) severance payments in the form of a continuation of his base salary in effect immediately prior to the termination for a period of 12 months following the termination; (ii) a lump-sum payment equal to the accrued portion of his target bonus, including any unpaid portion of the prior year's bonus; and (iii) COBRA coverage, to the extent elected, provided at the same premiums as are charged to active employees for the same level of group health coverage for a period of 12 months following termination, all of which are payable in consideration for and only after he executes a general release containing terms reasonably satisfactory to PharmAthene. The same provisions apply if Mr. Richman is terminated without cause or if he resigns for good reason within 12 months of a change of control and no new employment agreement has been entered into within 90 days of such change of control, except that Mr. Richman's severance payment would be made in one lump-sum payment corresponding to 18 months' salary, he would also receive his target bonus for the year of termination and all equity-based awards held by Mr. Richman would be deemed fully vested as of the date of termination.

The agreement specifies that Mr. Richman's previous employment agreement with PharmAthene was terminated as of January 1, 2011, other than with respect to provisions that specifically survive a termination thereof and other than with respect to the provision in Amendment No. 1 to his previous employment agreement relating to the grant of options to purchase 100,000 shares of PharmAthene's common stock, which vested in full on May 2, 2011. Amendment No. 1 to his previous employment agreement had been executed on May 18, 2010 in connection with Mr. Richman's appointment to the position of President and interim Chief Executive Officer. Under the amendment, Mr. Richman had been paid an annual base salary of $350,000 effective from May 2, 2010.

The December 23, 2010 agreement requires that during his employment and for a period of 12 months (in some cases 18 months) following termination of the employment, Mr. Richman shall not directly or indirectly engage in the development, production, marketing or sale of products that compete with PharmAthene's products or assist others in a competing business or induce other employees of PharmAthene to terminate their employment with PharmAthene or engage in a competing business. Mr. Richman is furthermore required to refrain from directly or indirectly disclosing any confidential information obtained while working at PharmAthene.

The agreement further specifies that if Mr. Richman becomes entitled to severance payments, subject to a limited exception in case of adverse tax effects, all salary continuation payments shall be placed in an irrevocable grantor trust, the assets of which are to be used to make the severance payments to the executive or satisfy the claims of PharmAthene's unsecured general creditors in the event of PharmAthene's insolvency or bankruptcy. If Mr. Richman is a "specified employee" (as determined in accordance with Treasury Regulation Section 1.409A-1(i) or related Company policy) at the time of termination, the severance payments otherwise payable to Mr. Richman during the first six months following termination (to the extent they

constitute “nonqualified deferred compensation” within the meaning of Section 409A of the Internal Revenue Code and the regulations thereunder) will be deferred until the date that is six months after termination of employment (or earlier upon his death).

Change in Control is defined in the agreement as: (i) an acquisition by any person, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Exchange Act, of beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act) of 30% or more of either (a) the then outstanding shares of common stock of PharmAthene or (b) the combined voting power of the then outstanding voting securities of PharmAthene entitled to vote generally in the election of directors; excluding, however, certain acquisitions from or by PharmAthene or an employee benefit plan sponsored or maintained by PharmAthene; (ii) a merger, consolidation, reorganization or similar corporate transaction, in which outstanding shares of common stock are converted into (a) shares of stock of another company, other than a conversion into shares of voting common stock of the successor corporation (or a holding company thereof) representing 80% of the voting power of all capital stock thereof outstanding immediately after the merger or consolidation or (b) other securities (of either PharmAthene or another company) or cash or other property; (iii) the issuance of shares of common stock in connection with a merger, consolidation, reorganization or similar corporate transaction in an amount in excess of 40% of the number of shares of common stock outstanding immediately prior to the consummation of such transaction; (iv) the (a) the sale or other disposition of all or substantially all of the assets of PharmAthene or (b) a complete liquidation or dissolution of PharmAthene; or (v) the adoption by the board of a resolution to the effect that any person has acquired effective control of the business and affairs of PharmAthene.

Termination “for good reason” is defined as a termination by the executive for: (i) any material breach by PharmAthene of PharmAthene’s obligations under the employment agreement; (ii) any material reduction in the executive’s duties, authority or responsibilities without the executive’s consent; (iii) any assignment to the executive of duties or responsibilities materially inconsistent with the executive’s position and duties under the employment agreement without consent; (iv) a relocation of PharmAthene’s principal executive offices or PharmAthene’s determination to require the executive to be based more than 25 miles away; (v) depriving the executive of any material benefit plan; (vi) non-renewal by PharmAthene of the agreement in accordance with the terms of the agreement; or (vii) the failure by PharmAthene to obtain the specific assumption of the employment agreement by any successor or assignee of PharmAthene or any person acquiring substantially all of PharmAthene’s assets. Mr. Richman may not terminate “for good reason” unless he first provides PharmAthene with written notice specifying the good reason and provides PharmAthene with 20 days in which to remedy the stated reason.

Termination “for cause” is defined as a termination for: (i) willful and substantial misconduct that materially injures PharmAthene and is not corrected; (ii) repeated neglect of duties or failure to act, which can reasonably be expected to materially and adversely affect PharmAthene’s business or affairs, after written notice from PharmAthene; (iii) material breach of the confidentiality and related provisions of the employment agreement or of PharmAthene’s policies; (iv) commission of material fraud with respect to PharmAthene’s business and affairs; (v) conviction of, or nolo contendere plea to, a felony; (vi) demonstrable gross negligence or (vii) habitual insobriety or use of illegal drugs adversely affecting the executive’s duties.

On July 31, 2013, PharmAthene’s Board of Directors approved amendments to Mr. Richman’s employment agreement. Please see the section entitled “— Termination in Connection with the Merger” for a description of the amended provisions of Mr. Richman’s employment agreement, as they apply to the merger.

Please see the section entitled “Potential Payments upon Termination or Change of Control — Severance Plan and Change in Control Agreements” below with respect to “change of control” events.

***Jordan P. Karp***

On June 30, 2008, PharmAthene entered into an employment agreement with Jordan Karp, under which Mr. Karp serves as PharmAthene’s General Counsel, for the period commencing on June 30, 2008 and ending on the first anniversary of such date. The term of the agreement is automatically extended for an additional year on each anniversary unless 90 days’ prior written notice of non-extension is provided.

Under the agreement, Mr. Karp is paid an annual base salary of $275,000, subject to annual review and increase at the option of the Compensation Committee. Effective January 1, 2013, Mr. Karp's base salary was increased to $320,588. Mr. Karp is also eligible for an annual cash bonus of up to 30% of his base salary payable at the sole discretion of the Compensation Committee, and may be eligible for additional bonuses at the option and sole discretion of the Compensation Committee based on the achievement of certain pre-determined performance milestones.

The agreement reflects the grant of an option, under the 2007 Plan, as amended, to purchase up to 200,000 shares of PharmAthene's common stock at an exercise price of $2.37 per share, the closing price of PharmAthene's common stock on the NYSE MKT on the date of grant. The option, which has a term of ten years, vests in four equal installments beginning on the first anniversary of the date of grant.

Under the terms of his agreement, if Mr. Karp is terminated other than for cause or he resigns for good reason, he is entitled to receive, in addition to unpaid salary and expenses and payment of accrued incentive compensation amounts, severance payments in the form of a continuation of his base salary in effect immediately prior to the termination for a period of six months following the termination (subject to a pending amendment that will extend the period to 12 months), which are payable in consideration for and only after he executes a general release containing terms reasonably satisfactory to PharmAthene. Termination "for cause" or "for good reason" is as defined above under "— Eric I. Richman," except that non-renewal by PharmAthene of the agreement in accordance with the terms of the agreement does not qualify as a termination "for good reason" in the employment agreement for Mr. Karp. Please also read the disclosure under "Potential Payments upon Termination or Change of Control — Severance Plan and Change in Control Agreements" below with respect to "change of control" events.

***Linda L. Chang***

On February 7, 2012, PharmAthene entered into an employment agreement with Linda L. Chang, under which Ms. Chang serves as PharmAthene's Chief Financial Officer, for the period commencing on February 7, 2012 and ending on the first anniversary of her hiring date, November 7, 2012. The term of the agreement is automatically extended for an additional year on each anniversary unless 90 days' prior written notice of non-extension is provided. On July 31, 2013 PharmAthene's Board of Directors approved an amendment to Ms. Chang's employment agreement, which will become effective immediately prior to the closing of the merger (and only if the merger closes).

Under the agreement, Ms. Chang is paid an annual base salary of $300,000, subject to annual review and increase at the option of the Compensation Committee. Effective January 1, 2013, Ms. Chang's base salary was increased to $318,000. Ms. Chang is also eligible for an annual cash bonus of up to 30% of her base salary payable at the sole discretion of the Compensation Committee, and may be eligible for additional bonuses at the option and sole discretion of the Compensation Committee based on the achievement of certain pre-determined performance milestones.

The agreement reflected payment of a $25,000 signing bonus upon her employment with PharmAthene, with the requirement that she repay such amount if she resigns her employment for any reason other than for "good reason" or PharmAthene terminates her employment for "cause" prior to November 7, 2012. The agreement reflected the grant of an option, under the 2007 Plan to purchase up to 170,000 shares of PharmAthene's common stock at an exercise price of $1.59 per share, the closing price of PharmAthene's common stock on the NYSE MKT on the date of grant. The option, which has a term of ten years, vests immediately with respect to 20,000 shares, with the remaining 150,000 shares vesting over a 4 year period with 25% each vesting on the first, second, third and fourth anniversaries of the grant date. The agreement also reflected the award of a restricted share grant of 20,000 shares of Company common stock under the 2007 Plan vesting at a rate of 33 1/3% per year starting on the first anniversary of the date of grant.

Under the terms of the agreements, if Ms. Chang is terminated other than for cause or she resigns for good reason, she is entitled to receive, in addition to unpaid salary and expenses and payment of accrued incentive compensation amounts, severance payments in the form of a continuation of her base salary in effect immediately prior to the termination for a period of nine months following the termination, which are payable in consideration for and only after she executes a general release containing terms reasonably satisfactory to PharmAthene. Termination "for cause" or "for good reason" is as defined above under "— Eric I. Richman,"

except that non-renewal by PharmAthene of the agreement in accordance with the terms of the agreement does not qualify as a termination "for good reason" in the employment agreements for Ms. Chang.

On July 31, 2013, PharmAthene's Board of Directors approved amendments to Ms. Chang's employment agreement. Please see the section entitled "— Termination in Connection with the Merger" for a description of the amended provisions of Ms. Chang's employment agreement, as they apply to the merger.

Additionally, Ms. Chang intends to enter into a consulting agreement with the combined company upon the completion of the merger, under which it is expected that Ms. Chang will provide to the combined company not more than 20% of the average level of service she provided to PharmAthene over the 36-month period immediately preceding the completion of the merger, for a period of three months after the completion of the merger, for a monthly retainer of $20,000.

Please see the section entitled "Potential Payments upon Termination or Change of Control — Severance Plan and Change in Control Agreements" below with respect to "change of control" events.

***Francesca Cook***

On April 18, 2008, PharmAthene entered into an employment agreement with Francesca Cook, under which Ms. Cook serves as PharmAthene's Vice President, Policy & Government Affairs, for the period commencing on April 18, 2008 and ending on the first anniversary of such date. The term of the agreement is automatically extended for an additional year on each anniversary unless 90 days' prior written notice of non-extension is provided.

Under the agreement, Ms Cook is paid an annual base salary of $231,612, subject to annual review and increase at the option of the Compensation Committee. Effective January 1, 2013, Ms. Cook's base salary was increased to $294,392. Ms Cook is also eligible for an annual cash bonus of up to 30% of her base salary payable at the sole discretion of the Compensation Committee, and may be eligible for additional bonuses at the option and sole discretion of the Compensation Committee based on the achievement of certain pre-determined performance milestones.

Under the terms of her agreement, if Ms. Cook is terminated other than for cause or she resigns for good reason, she is entitled to receive, in addition to unpaid salary and expenses and payment of accrued incentive compensation amounts, severance payments in the form of a continuation of her base salary in effect immediately prior to the termination for a period of six months following the termination (subject to a pending amendment that will extend the period to 12 months), which are payable in consideration for and only after she executes a general release containing terms reasonably satisfactory to PharmAthene. Termination "for cause" or "for good reason" is as defined above under "— Eric I. Richman," except that non-renewal by PharmAthene of the agreement in accordance with the terms of the agreement does not qualify as a termination "for good reason" in the employment agreement for Ms. Cook.

Please also read the disclosure under "Potential Payments upon Termination or Change of Control — Severance Plan and Change in Control Agreements" below with respect to "change of control" events.

**Potential Payments upon Termination or Change of Control — Severance Plan and Change in Control Agreements**

***Termination Without Cause/For Good Reason after a Change of Control***

On May 9, 2012, PharmAthene's Board of Directors approved the following Severance Plan, for PharmAthene's Chief Executive Officer, PharmAthene's Chief Financial Officer and certain other executives, including each of PharmAthene's Named Executive Officers, collectively referred to as the Covered Executives, which applies in case of a change of control. For PharmAthene's Chief Executive Officer, the Severance Plan includes: (i) payments equal to 24 months' worth of base salary; (ii) two times target annual cash bonus; (iii) health and other benefits continuation for 24 months; and (iv) a tax gross up for the excise tax payable on excess parachute payments under Sections 280G and 4999 of the Internal Revenue Code. For the other Covered Executives, the Severance Plan includes (i) base salary continuation for 18 months; (ii) 1.5 times target annual cash bonus; (iii) health and other benefits continuation for 18 months; and (iv) in lieu of an excise tax gross up, a "best executive choice" provision under which the

executive can elect either to receive his or her full severance benefit subject to the excise tax, if any, on excess parachute payments or to reduce his or her severance payment to the extent necessary to prevent the imposition of such excise tax. PharmAthene's Board of Directors can modify or terminate the Severance Plan at any time, and PharmAthene's Board of Directors has taken action to terminate the Severance Plan effective upon the closing of the merger.

The following table sets forth the amount of potential payments and value of benefits that each Named Executive Officer, who was serving as an executive officer on December 31, 2012, would have received if PharmAthene had terminated the executive officer's employment on December 31, 2012 following a change of control as specified under the Severance Plan:

| Name | Cash Payments[1] | Value of Benefits[2] | Value of Equity[3] | Excise Tax Gross Up[4] |
|---|---|---|---|---|
| Eric I. Richman | $1,417,280 | $ 54,000 | — | — |
| Jordan P. Karp | $ 602,550 | $ 40,000 | — | — |
| Francesca Cook | $ 551,985 | $ 26,000 | — | — |
| Linda L. Chang | $ 585,000 | $ 1,000 | — | — |

(1) Represents the sum of: (i) an amount equal to 24 months' worth of base salary for Eric I. Richman and 18 months' worth of base salary for all other Named Executive Officers; and (ii) an amount equal to 200% of the target annual cash bonus for Eric I. Richman and 150% of the target annual cash bonus for all other Named Executive Officers. According to their respective employment agreements, Mr. Richman's target bonus is up to 60% of base salary and the target bonus for all other Named Executive Officers is up to 30% of base salary.

(2) Estimated value of health and life insurance and other benefits for 24 months and 18 months, respectively.

(3) The value of the automatic acceleration of the vesting of unvested stock options held by an executive is based on the difference between: (i) the market price of the shares of PharmAthene common stock underlying the unvested stock options held by such officer as of December 31, 2012, based on the $1.12 closing sale price of common stock on December 31, 2012; and (ii) the exercise prices of the options, which range from $1.13 to $3.91 per share. The closing price per share of PharmAthene's common stock is below the exercise price of unvested stock options, therefore, there is no intrinsic value associated with these unvested awards at December 31, 2012. Under Mr. Richman's employment agreement, if he is terminated without cause or if he resigns for good reason within twelve months of a change of control and no new employment agreement has been entered into within 90 days of such change of control, all equity-based awards held by Mr. Richman would be deemed fully vested as of the date of termination. The acceleration provisions for the remaining Named Executive Officers are set forth in their stock option grant agreements.

(4) To the extent that Mr. Richman is subject to certain excise taxes under Section 4999 of the Internal Revenue Code, he is eligible for reimbursement of those excise taxes and any additional federal, state, local and excise tax resulting from such gross-up payments. The amount reported in the table is calculated assuming an excise tax rate of 20%. PharmAthene has assumed, solely for purposes of preparing this table, that the salary continuation portion of the severance constitutes "reasonable compensation" for the restrictive covenants to which the executive is bound following the termination of employment. Accordingly, PharmAthene has not treated the salary continuation portion as part of the amounts falling under Section 4999 of the Internal Revenue Code. Such assumption may change at the time of an actual change of control. All other Named Executive Officers are subject to a "best executive choice" provision under which the executive can elect either to receive his or her full severance benefit subject to the excise tax, if any, on excess parachute payments or to reduce his or her severance payment to the extent necessary to prevent the imposition of such excise tax.

On July 31, 2013, PharmAthene's Board of Directors approved amendments to the employment agreements of each of Mr. Richman and Ms. Chang to provide for additional benefits upon the closing of the merger. Please see the section entitled "— Termination in Connection with the Merger."

***Termination Without Cause/For Good Reason in the Absence of a Change of Control***

The following table sets forth the percentage of base salary and the stated period for continued employee benefits to which each of PharmAthene's Named Executive Officers is entitled, if PharmAthene terminated the Named Executive Officer's employment without cause or if the Named Executive Officer resigned for good reason on December 31, 2012, as set forth in the relevant employment agreement.

| Name | Percentage of Annual Base Salary and Bonus | Stated Period for Continued Employee Benefits |
|---|---|---|
| Eric I. Richman | 100% of salary for 12 months; lump-sum payment of accrued portion of target bonus and unpaid portion of prior year's bonus | 12 months |
| Jordan P. Karp | 100% of salary for 6 months* | — |
| Francesca Cook | 100% of salary for 6 months* | — |
| Linda L. Chang | 100% of salary for 9 months | — |

* Subject to amendment of the employment agreement that will extend the period to 12 months.

The following table sets forth the amount of potential payments and value of benefits that each Named Executive Officer, who was serving as an executive officer on December 31, 2012, would have received if PharmAthene had terminated the executive officer's employment without cause or if the Named Executive Officer resigned for good reason on December 31, 2012.

| Name | Cash Payments[1] | Value of Benefits[2] | Value of Options |
|---|---|---|---|
| Eric I. Richman | $ 442,900 | 27,000 | — |
| Jordan P. Karp | $154,500** | — | — |
| Francesca Cook | $141,535** | — | — |
| Linda L. Chang | $ 225,000 | — | — |

** Subject to amendment that will double this amount.

(1) See preceding table. The amounts in the table above only reflect the salary portion of the cash payments.

(2) Estimated value of health and life insurance and other benefits. See preceding table.

***Termination in Connection with the Merger***

On July 31, 2013, PharmAthene's Board of Directors approved amendments to the employment agreements of PharmAthene's Chief Executive Officer and Chief Financial Officer that will become effective immediately upon completion of the merger (and only if the merger is completed) and which will provide substantially the same benefits that Mr. Richman and Ms. Chang would have been entitled to receive under the Severance Plan upon termination without cause or resignation for good reason within 12 months of a change of control of PharmAthene. Please see "— Termination Without Cause/For Good Reason After a Change of Control" for a description of such benefits. In addition to such benefits, the amendment will provide for acceleration of vesting of all outstanding equity-based awards held by Mr. Richman and Ms. Chang, and extend the exercise period applicable to their outstanding stock options until the third anniversary following their departure from service with PharmAthene and Linda Chang will also receive an additional lump sum payment for the costs associated with 18 months' use of an automobile.

The following table sets forth the amount of potential payments and value of benefits that Mr. Richman and Ms. Chang would have received if their employment had been terminated in connection with the merger, assuming the merger had been completed on October 4, 2013.

| Name | Cash Payments[1] | Value of Benefits[2] | Value of Options[3] | Excise Tax Gross Up[4] | Total |
|---|---|---|---|---|---|
| Eric I. Richman | $1,701,701 | $ 54,000 | $194,000 | $714,452 | $2,673,153 |
| Linda L. Chang | $ 620,100 | $ 19,000 | $114,000 | $ 0 | $ 753,100 |

(1) Represents the sum of: (i) an amount equal to 24 months' worth of base salary for Mr. Richman and 18 months' worth of base salary for Ms. Chang; (ii) an amount equal to 200% of the target annual cash bonus for Mr. Richman and 150% of the target annual cash bonus for Ms. Chang; and (iii) for Ms. Chang, this amount includes a lump sum payment of $18,000 equal to the estimated costs associated with 18 months' use of an automobile. According to their respective employment agreements, Mr. Richman's target bonus is up to 60% of base salary and the target bonus for Ms. Chang is up to 30% of base salary. Includes $250,903 equal to the pro rata bonus due to Mr. Richman for the current year.

(2) Estimated value of PharmAthene's subsidy for group health insurance for 24 months and 18 months, respectively.

(3) The value of the automatic acceleration of the vesting of unvested stock options held by an executive is based on the difference between: (i) the market price of the shares of PharmAthene common stock underlying the unvested stock options held by such officer as of October 4, 2013, based on the average closing sale price of common stock from August 2, 2013 to August 8, 2013, representing the five business days following the announcement of the merger (i.e., $1.88), and (ii) the exercise price of the options, which range from $1.13 to $4.20 per share. Also included in this value is the value of unvested restricted shares. If the average closing price per share of PharmAthene's common stock was below the exercise price of unvested stock option, there was no intrinsic value associated with that unvested award. Under Mr. Richman's employment agreement, if he is terminated without cause or if he resigns for good reason within twelve months of a change of control and no new employment agreement has been entered into within 90 days of such change of control, all equity-based awards held by Mr. Richman would be deemed fully vested as of the date of termination. The acceleration provisions for Ms. Chang are set forth in her stock option grant agreement.

(4) To the extent that Mr. Richman is subject to certain excise taxes under Section 4999 of the Internal Revenue Code, he is eligible for reimbursement of those excise taxes and any additional federal, state, local and excise tax resulting from such gross-up payments. The amount reported in the table is calculated assuming an excise tax rate of 20%. PharmAthene has assumed, for purposes of preparing this table, that $912,374 of Mr. Richman's severance constitutes "reasonable compensation" for the restrictive covenants to which the executive is bound following the termination of employment. Accordingly, PharmAthene has not treated that portion of his severance as part of the amounts falling under Section 4999 of the Internal Revenue Code. Such assumption may change at the time of an actual change of control. Linda Chang is subject to a "best executive choice" provision under which the executive can elect either to receive the amount other severance benefits, subject to the excise tax, if any, payable on excess parachute payments, or to reduce her severance payment to the extent necessary to prevent the imposition of such avoid triggering excise tax on such payment.

***Indemnification and Insurance***

PharmAthene's Certificate of Incorporation and Delaware law provides that PharmAthene will indemnify and hold harmless each present and former director and officer of PharmAthene, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the merger, to the fullest extent permitted under applicable law. The executive officers and directors of PharmAthene have rights to indemnification, advancement of expenses, and director and officer liability insurance that will survive the completion of the merger.

**Interests of Theraclone's Directors and Officers in the Merger**

In considering the recommendation of the Theraclone Board of Directors to Theraclone stockholders to approve the merger and to adopt and approve the Merger Agreement and the other matters to be acted upon by Theraclone stockholders in the Theraclone written consent, Theraclone stockholders should be aware that members of the Theraclone Board of Directors and Theraclone's officers have interests in the merger that may be different from, in addition to, or may conflict with the interests of Theraclone stockholders. These interests relate to or arise from, among other things:

- The beneficial ownership interests of Theraclone directors and officers in shares of Theraclone capital stock and securities to be converted into PharmAthene common stock and rights to purchase PharmAthene common stock in the merger.

- The agreement that Steven Gillis, Ph.D., Wende S. Hutton and Clifford J. Stocks, each a Theraclone director, will continue to serve on the Board of Directors of the combined company following the consummation of the merger.
- The assumption of all stock options held by the Theraclone executive officers and board members upon the consummation of the merger.
- The agreement that Mr. Stocks, Russ Hawkinson, Eleanor Ramos, M.D., and Kristine Swiderek, Ph.D. each a Theraclone executive officer, will continue to serve as executive officers of the combined company following the consummation of the merger and will enter into new employment agreements with the combined company.
- The right to continued indemnification and insurance coverage for directors and executive officers of Theraclone following completion of the merger, pursuant to the terms of the Merger Agreement, as described in more detail below.

The Theraclone Board of Directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the merger, and to recommend that Theraclone stockholders approve the merger and related matters. Other than full disclosure of these potential conflicts of interest, the Theraclone Board of Directors did not take any other steps to alleviate such potential conflicts of interest since it did not consider such potential conflicts of interest to be material in connection with its decision to approve the Merger Agreement and the transactions contemplated thereby, including the merger.

**Ownership Interests**

As of October 4, 2013, the latest practicable date before the filing of this proxy statement/prospectus/consent solicitation, directors and executive officers of Theraclone, together with their respective affiliates, owned and were entitled to vote, in the aggregate, 24,552,617 shares of Theraclone capital stock, or approximately 62% of the shares of Theraclone capital stock outstanding on that date. Assuming the merger had been completed as of such date, all directors and executive officers of Theraclone, together with their respective affiliates, would beneficially own, in the aggregate, 27% of the outstanding shares of common stock of the combined company.

For a more complete discussion of the ownership interests of the directors and executive officers of Theraclone, see the sections entitled “PRINCIPAL STOCKHOLDERS OF THERACLONE” and “PRINCIPAL STOCKHOLDERS OF THE COMBINED COMPANY.”

**Directors**

Following completion of the merger, Mr. Gillis and Ms. Hutton are expected to receive cash and equity compensation in accordance with PharmAthene’s equity compensation policies for non-employee directors as described in the section “— Interests of PharmAthene’s Directors and Officers in the Merger — Continuing Directors.”

**Stock Options**

At the Effective Time of the merger, each Theraclone stock option to purchase Theraclone common stock not exercised prior to the merger will be assumed by PharmAthene and become exercisable for such number of shares of PharmAthene common stock as is determined by multiplying the number of shares of Theraclone common stock subject to the option by the exchange ratio and rounding that result down to the nearest whole number of shares of PharmAthene common stock, and at a per share exercise price as is determined by dividing the existing exercise price of the option by the exchange ratio and rounding that result up to the nearest whole cent.

The table below sets forth, as of October 4, 2013, information with respect to options held by each of the executive officers and directors of Theraclone as of such date.

| Name | Number of Shares of Common Stock Subject to Options |
|---|---|
| Steven Gillis, Ph.D. | 1,220,000(1) |
| Russ Hawkinson | 579,375(1) |
| Wende S. Hutton | — |
| Christopher Mirabelli | — |
| Eleanor Ramos, M.D. | 499,800(1) |
| Wendye Robbins | 121,915(2) |
| Clifford J. Stocks | 2,816,671(1)(3) |
| Kristine Swiderek, Ph.D. | 414,985(1) |

(1) As of October 4, 2013, 1,205,000 of Dr. Gillis' options were vested, 466,991 of Mr. Hawkinson's options were vested, 239,735 of Dr. Ramos' options were vested, 850,319 of Mr. Stocks' options were vested and 237,019 of Dr. Swiderek's options were vested.

(2) As of October 4, 2013, 30,478 of Ms. Robbins options were vested. Upon completion of the merger, Ms. Robbins will not continue as a board member of the combined company and, therefore, her unvested options as of the Effective Time will terminate upon completion of the merger.

(3) 909,724 of these options will terminate upon completion of the merger.

**Employment Agreements and Severance and Change in Control Agreements**

Mr. Stocks will serve as the President and Chief Executive Officer of the combined company under an Executive Employment Agreement that will become effective as of the day of the closing of the merger. Under his employment Agreement, Mr. Stocks will be entitled to receive an annual base salary of $379,600 for the remaining fiscal year 2013 and $440,000 for fiscal year 2014, subject to annual review by the compensation committee of the combined company's Board of Directors. In addition, Mr. Stocks will be entitled to an annual cash bonus of up to 35% of his then-current base salary for the remaining fiscal year 2013 and up to 50% of his then-current base salary thereafter based on criteria established by the combined company's Board of Directors.

In connection with his employment, Mr. Stocks will be granted an option to purchase 903,666 shares of PharmAthene common stock, with an exercise price equal to the closing price of PharmAthene common stock on the date of grant, which is expected to be the date of the closing of the merger. The option will vest over four years in equal installments on each of the 48 monthly anniversaries of the grant date, subject to Mr. Stocks' continued employment with the combined company.

Under the Executive Employment Agreement, in the event of Mr. Stocks' Termination in Absence of Change of Control (as defined below) and provided that Mr. Stocks delivers to the combined company a signed general release agreement, Mr. Stocks would receive: (i) a lump-sum payment equal to 12 months of his then-current annual base salary; (ii) subject to Mr. Stocks' election, reimbursement for any monthly COBRA premium payments made by him for a period of 12 months after his termination; and (iii) acceleration of any unvested stock options held by Mr. Stocks in an amount equal to 25% of the total number of shares covered by the option.

In the event of Mr. Stocks' Termination Upon Change of Control (as defined below), and provided that Mr. Stocks agrees to provide transitional services as further provided in the Executive Employment Agreement, resigns from his position on the Board of Directors of the combined company, and delivers to the combined company a signed release, Mr. Stocks would be entitled to receive: (i) a lump-sum payment equal to 12 months of his then-current annual base salary; (ii) subject to Mr. Stocks' election, reimbursement for any monthly COBRA premium payments made by him for a period of 12 months after his termination; and (iii) acceleration of all unvested stock options then held by Mr. Stocks.

Under Mr. Stocks' Executive Employment Agreement, Termination in Absence of Change of Control means (i) any termination of Mr. Stocks' employment by the combined company without "cause" (as defined

in the Executive Employment Agreement) other than where such termination occurs in connection with a “change of control” (as defined in the Executive Employment Agreement) or during the 12 month period following the consummation of a “change of control” or (ii) any resignation by Mr. Stocks for “good reason” (as defined in the Executive Employment Agreement), where such “good reason” does not occur in connection with a “change of control” or does not occur during the 12 month period following the consummation of the “change of control.” Notwithstanding the foregoing, the term Termination in Absence of Change of Control does not include any termination of Mr. Stocks’ employment for “cause,” as a result of his “permanent disability” (as defined in the Executive Employment Agreement) or death, or as a result of his voluntarily termination for other than “good reason.”

Under Mr. Stocks’ Executive Employment Agreement, Termination Upon Change of Control means (i) any termination of the employment of Mr. Stocks by the combined company without “cause” that occurs in connection with a “change of control” or during the 12 month period following the consummation of a “change of control” or (ii) any resignation by Mr. Stocks for “good reason” that occurs in connection with a “change of control” or during the 12 month period following the consummation of a “change of control.” Notwithstanding the foregoing, the term Termination Upon Change of Control does not include any termination of Mr. Stocks’ employment for “cause,” as a result of his “permanent disability” (as defined in the Executive Employment Agreement) or death, or as a result of his voluntarily termination for other than “good reason.”

As part of the merger, new employment agreements, or the New Employment Agreements, with Francesca M. Cook, Russ Hawkinson, Jordan P. Karp, Eleanor Ramos, M.D. and Kristine Swiderek, Ph.D., (each, an Executive), each of whom is expected to serve as an executive officer of the combined company upon the completion of the merger, as well as certain expected key employees of the combined company, are expected to be executed immediately after the closing of the merger. All New Employment Agreements are expected to have substantially similar terms and conditions discussed in detail below.

Under each Executive's New Employment Agreement, the combined company will agree to employ the Executive for one year. Each New Employment Agreement will be automatically extended for an additional year on each anniversary unless a party to such agreement gives a written notice of non-extension at least 90 days prior to such anniversary.

Each Executive's New Employment Agreement will set forth a base salary, which is subject to annual review by the compensation committee of the combined company’s Board of Directors. In addition, the Executive will be eligible to receive an annual cash bonus (as percentage of the Executive's then-current base salary), at the discretion of the compensation committee of the combined company’s Board of Directors. The Executive may also be eligible to receive additional bonuses and equity compensation awards at the discretion and based on criteria established by the compensation committee of the combined company’s Board of Directors.

The combined company may terminate each Executive's New Employment Agreement at any time for cause. The Executive may terminate the agreement voluntarily. If the New Employment Agreement is terminated for cause by the combined company or voluntarily by the Executive, the Executive will be entitled to the unpaid portion of his or her base salary, accrued but unpaid amounts and extensions of applicable benefits in which the Executive is participating at the time of his or her termination of employment, and reimbursement of reasonable and necessary business and travel expenses.

The combined company may terminate each Executive's New Employment Agreement without cause. The Executive may terminate the agreement for good reason. If the agreement is terminated without cause by the combined company or for good reason by the Executive, the Executive would be entitled to receive: (i) the same benefits the Executive would be entitled to if his or her employment were terminated for cause by the combined company or voluntarily by the Executive and (ii) if the Executive delivers to the combined company a signed general release agreement, severance benefits in the form of one year's base salary and, for a period of 12 months after termination, reimbursement of COBRA premiums such that the Executive would pay the same amount PharmAthene charges to its active employees for the same level of health coverage.

Each New Employment Agreement will contain restrictive covenants, including: (i) prohibition of disclosure of confidential information; (ii) engagement in a competing business; (iii) non-solicitation of the combined company's customers or business partners; and (iv) non-solicitation of the combined company's employees. The combined company has rights to all inventions and works the Executive produced or produces during the performance of his or her duties with the combined company, PharmAthene or Theraclone or relate to the business of the combined company, PharmAthene or Theraclone during his or her employment with the combined company, PharmAthene or Theraclone, the period of the New Employment Agreement, and 12 months following the termination of the agreement.

Pursuant to their New Employment Agreements, Ms. Cook, Mr. Hawkinson, Mr. Karp, Dr. Ramos and Dr. Swiderek are expected to receive an annual base salary, prorated for the remainder of fiscal year 2013, of $294,392, $243,813, $320,588, $368,501 and $261,250, respectively, subject to review by the compensation committee of the combined company. In addition, each Executive may earn a fiscal year 2013 cash bonus of up to between 20% and 30% of the Executive's 2013 salary. For fiscal year 2014, Ms. Cook, Mr. Hawkinson, Mr. Karp, Dr. Ramos and Dr. Swiderek are expected to receive a target salary of $300,280, $290,689, $326,999, $375,871 and $286,475, respectively, subject to review by the compensation committee of the combined company. For fiscal year 2014, each Executive may earn a cash bonus of up to 30% of his or her then-current base salary based on criteria established by the combined company's Board of Directors.

In connection with the closing of the merger, Mr. Hawkinson, Dr. Ramos and Dr. Swiderek are expected to receive options to purchase 100,000, 100,000 and 87,500 shares of PharmAthene common stock, respectively, with an exercise price equal to the closing price of PharmAthene common stock on the date of grant, which is expected to be the date of the closing of the merger. The options are expected to vest over four years, subject to the holder's continued employment with PharmAthene. Except as described above, PharmAthene does not expect to issue additional compensation to Messrs. Stocks and Hawkinson and Drs. Ramos and Swiderek related to 2013 performance. In connection with the closing of the merger, Ms. Cook and Mr. Karp are expected to receive 100,000 and 125,000 restricted stock units of PharmAthene, or RSUs, respectively. The RSUs are expected to vest in four equal installments, beginning on the closing date of the merger and on each of the three annual anniversaries of the grant date.

As noted above, the New Employment Agreements are expected to be executed by PharmAthene and each of the Executives immediately after the closing of the merger.

**Indemnification and Insurance**

The Merger Agreement provides that the combined company will continue to indemnify and hold harmless each present and former director and officer of Theraclone, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the merger, to the fullest extent permitted under applicable law.

The Merger Agreement also provides that, prior to completion of the merger, Theraclone may purchase and maintain for a period of six years following completion of the merger, a directors' and officers' liability "tail" insurance policy covering the present and former directors and officers of Theraclone for events occurring prior to completion of the merger. If Theraclone does not obtain "tail" insurance, then, for a period of six years from the following completion of the merger, PharmAthene shall cause the surviving subsidiary to maintain in effect the current policies of directors' and officers' liability insurance and fiduciary liability insurance maintained by Theraclone with respect to matters arising on or before the completion of the merger.

**Regulatory Approvals**

Neither PharmAthene nor Theraclone is required to make any filings or to obtain approvals or clearances from any antitrust regulatory authorities in the United States or other countries to consummate the merger. In the United States, PharmAthene must comply with applicable federal and state securities laws in connection with the issuance of shares of PharmAthene common stock in the merger, including the filing with the SEC of the registration statement of which this proxy statement/prospectus/consent solicitation is a part. In addition, as described below, PharmAthene must comply with applicable rules of the NYSE MKT which require the preparation and approval of an additional listing application for the shares of PharmAthene common stock issuable in connection with the merger.

**NYSE MKT Listing of PharmAthene Common Stock**

PharmAthene common stock currently is listed on the NYSE MKT under the symbol "PIP". PharmAthene has filed an additional listing application for the shares of PharmAthene issuable in connection with the merger.

**Material U.S. Federal Income Tax Consequences of the Merger**

PharmAthene and Theraclone intend the merger to qualify as a "reorganization" within the meaning of Section 368(a) of the Code and have generally agreed not to take any action that would prevent the merger from qualifying as a reorganization under Section 368(a) of the Code. For a more complete discussion of the material U.S. federal income tax consequences of the merger, see the section entitled "CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER."

**Anticipated Accounting Treatment**

Under ASC 805, the merger is expected to be accounted for using acquisition accounting pursuant to which PharmAthene is considered the acquiring entity for accounting purposes. As such, PharmAthene expects to allocate the total purchase consideration to Theraclone's tangible and identifiable intangible assets acquired and liabilities assumed based on their fair values at the date of the completion of the merger.

Final valuations of Theraclone's property, plant and equipment, and identifiable intangible and other assets acquired have not yet been completed as management is still reviewing the existence, characteristics and useful lives of Theraclone's tangible and intangible assets. The completion of the valuation could result in significantly different amortization expenses and balance sheet classifications than those presented in the unaudited pro forma condensed combined financial information included in this prospectus. After completion of the merger, the results of operations of both PharmAthene and Theraclone will be included in the financial statements of PharmAthene.

For further discussion of the accounting treatment, see the section entitled "SELECTED HISTORICAL AND UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL DATA."

**Appraisal Rights**

**PharmAthene**

If the merger is completed, PharmAthene stockholders are not entitled to appraisal rights under Section 262 of the Delaware General Corporation Law.

**Theraclone**

If the merger is completed, Theraclone stockholders who have not waived such rights are entitled to appraisal rights under Section 262, provided that they comply with the conditions established by Section 262.

This section is intended to provide a brief summary of the material provisions of the Delaware statutory procedures that a stockholder must follow in order to seek and perfect appraisal rights. However, this summary is not a complete statement of all applicable requirements, and it is qualified in its entirety by reference to the text of the relevant provisions of Delaware law, which are attached to this proxy statement/prospectus/consent solicitation as Annex G. The following summary does not constitute any legal or other advice, nor does it constitute a recommendation that Theraclone stockholders exercise their appraisal rights under Section 262. Failure to follow precisely any of the statutory procedures set forth in Annex G may result in a termination or waiver of appraisal rights.

A record holder of shares of Theraclone capital stock who makes the demand described below with respect to such shares, who continuously holds such shares through the Effective Time, who submits a written demand for appraisal to Theraclone in compliance with the statutory requirements of Section 262, and who does not vote in favor of the merger or consent thereto in writing will be entitled to an appraisal by the Delaware Court of Chancery of the fair value of his, her or its shares of Theraclone capital stock in lieu of the consideration that such stockholder would otherwise be entitled to receive pursuant to the Merger Agreement. All references in this summary of appraisal rights to a "stockholder" or "holders of shares of Theraclone capital stock" are to the record holder or holders of shares of Theraclone capital stock.

Under Section 262, because Theraclone is seeking the written consent of its stockholders to approve the merger, Theraclone must notify each of the holders of its stock for whom appraisal rights are available that such appraisal rights are available and include in such notice a copy of Section 262. This proxy statement/prospectus/written consent constitutes such notice to the record holders of Theraclone capital stock and a copy of Section 262 is attached to this proxy statement/prospectus/consent solicitation as Annex G.

Theraclone stockholders who desire to exercise their appraisal rights must satisfy all of the conditions of Section 262. Those conditions include the following:

Theraclone stockholders electing to exercise appraisal rights must not vote "for" the merger. Voting "for" the merger will result in the waiver of appraisal rights. Also, because a submitted written consent not marked "against" or "abstain" will be voted "for" the merger, the submission of a written consent not marked "against" or "abstain" will result in the waiver of appraisal rights.

A written demand for appraisal of shares of Theraclone capital stock must be delivered to Theraclone before the date written consent must be received. The written demand for appraisal should specify the Theraclone stockholder's name and mailing address, and that such stockholder is thereby demanding appraisal of his, her or its shares of Theraclone capital stock. The written demand for appraisal of shares of Theraclone capital stock is in addition to and separate from a vote against the merger or an abstention from such vote. Failure to return your written consent, voting against, or abstaining from voting on, the merger will not satisfy a stockholder's obligation to make a written demand for appraisal. Failure to make a written demand for appraisal prior to delivery of your written consent will constitute a waiver of appraisal rights.

A demand for appraisal must be executed by or for the Theraclone stockholder of record, fully and correctly, as such stockholder's name appears on the stock certificate. If the shares are owned of record in a fiduciary capacity, such as by a trustee, guardian or custodian, this demand must be executed by or for the fiduciary. If the shares of Theraclone capital stock are owned by or for more than one person, as in a joint tenancy or tenancy in common, such demand must be executed by or for all joint owners. An authorized agent, including an agent for two or more joint owners, may execute the demand for appraisal for a Theraclone stockholder of record. However, the agent must identify such record holder and expressly disclose the fact that, in exercising the demand, he is acting as agent for such record holder. A person having a beneficial interest in Theraclone capital stock held of record in the name of another person, such as a broker or nominee, must act promptly to cause the record holder to follow the steps summarized below in a timely manner to perfect appraisal rights on behalf of the beneficial owners.

A Theraclone stockholder who elects to exercise appraisal rights should mail or deliver his, her or its written demand to Theraclone by faxing it to Theraclone's legal counsel, Fenwick & West LLP, Attention: Ellen Welichko, at (206) 389-4511, by emailing a .pdf copy of your written consent to ewelichko@fenwick.com, or by mailing your written consent to Fenwick & West LLP at 1191 Second Avenue, 10th Floor, Seattle, Washington 98101, Attention: Ellen Welichko.

Within 10 days after the Effective Time, Theraclone must provide notice of the Effective Time to all Theraclone stockholders who have complied with Section 262 and have not voted in favor of the merger.

Within 120 days after the Effective Time, either Theraclone or any Theraclone stockholder who has complied with the required conditions of Section 262 may file a petition in the Delaware Court of Chancery, with a copy served on Theraclone in the case of a petition filed by an Theraclone stockholder, demanding a determination of the fair value of the shares of Theraclone capital stock held by all Theraclone stockholders seeking to exercise appraisal rights. There is no present intent on the part of Theraclone to file an appraisal petition, and Theraclone stockholders seeking to exercise appraisal rights should not assume that Theraclone will file such a petition or that Theraclone will initiate any negotiations with respect to the fair value of such shares. Accordingly, Theraclone stockholders who desire to have their shares of Theraclone capital stock appraised should initiate any petitions necessary for the perfection of their appraisal rights within the time periods and in the manner prescribed in Section 262. Failure to file a petition for appraisal within the time period specified in Section 262 could result in a loss of appraisal rights.

Within 120 days after the Effective Time, any Theraclone stockholder who has satisfied the requirements of Section 262 will be entitled, upon written request, to receive from Theraclone a statement setting forth the

aggregate number of shares of Theraclone common stock and Theraclone preferred stock not voting in favor of the merger and with respect to which demands for appraisal were received by Theraclone and the aggregate number of holders of such shares. Such statement must be mailed within 10 days after the Theraclone stockholder's request has been received by Theraclone or within 10 days after the expiration of the period for the delivery of demands as described above, whichever is later.

If a petition for an appraisal is timely filed and a copy thereof is served upon Theraclone, Theraclone will then be obligated, within 20 days after such service, to file in the office of the Delaware Register in Chancery, or the Register, a duly verified list containing the names and addresses of all Theraclone stockholders who have demanded an appraisal of their shares of Theraclone capital stock and with whom agreements as to the value of such shares have not been reached. Upon notice to the Theraclone stockholders, as required by the Delaware Court of Chancery, at a hearing on such petition, the Delaware Court of Chancery will determine which Theraclone stockholders are entitled to appraisal rights. The Delaware Court of Chancery may require the Theraclone stockholders who have demanded an appraisal for their shares of Theraclone capital stock and who hold such stock represented by certificates to submit their certificates of stock to the Register for notation thereon of the pendency of the appraisal proceedings; and if any Theraclone stockholder fails to comply with such direction, the Delaware Court of Chancery may dismiss the proceedings as to such stockholder. Where proceedings are not dismissed, the Delaware Court of Chancery will appraise the shares of Theraclone capital stock owned by such stockholders, determining the fair value of such shares exclusive of any element of value arising from the accomplishment or expectation of the merger. When the fair value has been determined, the Delaware Court of Chancery will direct the payment of such value upon surrender by those stockholders of the certificates representing their shares of Theraclone capital stock. Unless the Delaware Court of Chancery in its discretion determines otherwise for good cause shown, interest from the Effective Time through the date of payment of the judgment will be compounded quarterly and will accrue at five percent over the Federal Reserve discount rate (including any surcharge) as established from time to time during the period between the Effective Time and the date of payment of the judgment.

Although the Board of Directors of Theraclone believes that the merger consideration is fair, no representation is made as to the outcome of the appraisal of fair value as would be determined by the Delaware Court of Chancery, and Theraclone stockholders should recognize that such an appraisal could result in a determination of a value higher or lower than, or the same as, the consideration they would receive pursuant to the Merger Agreement. Moreover, Theraclone does not anticipate offering more than the merger consideration to any Theraclone stockholder exercising appraisal rights and reserves the right to assert in any appraisal proceeding, that, for purposes of Section 262, the "fair value" of a share of Theraclone capital stock is less than the merger consideration. In determining "fair value," the Delaware Court of Chancery is required to take into account all relevant factors. In Weinberger v. UOP, Inc., the Delaware Supreme Court discussed the factors that could be considered in determining fair value in an appraisal proceeding, stating that "proof of value by any techniques or methods which are generally considered acceptable in the financial community and otherwise admissible in court" should be considered and that "fair price obviously requires consideration of all relevant factors involving the value of a company." The Delaware Supreme Court has stated that in making this determination of fair value, the court must consider market value, asset value, dividends, earnings prospects, the nature of the enterprise and any other facts which could be ascertained as of the date of the merger which shed any light on the future prospects of the merged corporation. Section 262 provides that fair value is to be "exclusive of any element of value arising from the accomplishment or expectation of the merger." In Cede & Co. v. Technicolor, Inc., the Delaware Supreme Court stated that such exclusion is a "narrow exclusion that does not encompass known elements of value," but which rather applies only to the speculative elements of value arising from such accomplishment or expectation. In Weinberger, the Delaware Supreme Court also stated that "elements of future value, including the nature of the enterprise, which are known or susceptible of proof as of the date of the merger and not the product of speculation, may be considered." In addition, Delaware courts have decided that the statutory appraisal remedy, depending on factual circumstances, may or may not be a dissenting stockholder's exclusive remedy.

The cost of the appraisal proceeding, which does not include attorneys' or experts' fees, may be determined by the Delaware Court of Chancery and imposed upon the dissenting Theraclone stockholder(s) and/or Theraclone as the Delaware Court of Chancery deems equitable under the circumstances. Each

dissenting Theraclone stockholder is responsible for his, her or its attorneys' and expert witness fees and expenses, although, upon application of a dissenting Theraclone stockholder, the Delaware Court of Chancery may order that all or a portion of the expenses incurred by any dissenting Theraclone stockholder in connection with the appraisal proceeding, including without limitation reasonable attorneys' fees and the fees and expenses of experts, be charged pro rata against the value of all shares of Theraclone capital stock entitled to appraisal.

Any Theraclone stockholder who has duly demanded appraisal in compliance with Section 262 will not, after the Effective Time, be entitled to vote for any purpose any shares of Theraclone capital stock subject to such demand or to receive payment of dividends or other distributions on such shares, except for dividends or distributions payable to Theraclone stockholders of record at a date prior to the Effective Time.

At any time within 60 days after the Effective Time, any Theraclone stockholder will have the right to withdraw his, her or its demand for appraisal and to accept the terms offered in the Merger Agreement. After this period, a Theraclone stockholder may withdraw his, her or its demand for appraisal and receive payment for his, her or its shares as provided in the Merger Agreement only with the consent of Theraclone. If no petition for appraisal is filed with the Delaware Court of Chancery within 120 days after the Effective Time, or if any Theraclone stockholder otherwise fails to perfect, successfully withdraws, or loses such holder's appraisal rights, then such stockholder's right to appraisal will cease and such stockholder's shares of Theraclone capital stock will be deemed to have been converted at the Effective Time into the right to receive the consideration that such Theraclone stockholder would otherwise be entitled to receive pursuant to the Merger Agreement. Inasmuch as Theraclone has no obligation to file such a petition, any Theraclone stockholder who desires a petition to be filed is advised to file it on a timely basis. Any Theraclone stockholder may withdraw such stockholder's demand for appraisal by delivering to Theraclone a written withdrawal of his, her or its demand for appraisal and acceptance of the merger consideration, except that (i) any such attempt to withdraw made more than 60 days after the Effective Time will require written approval of Theraclone and (ii) no appraisal proceeding in the Delaware Court of Chancery will be dismissed as to any Theraclone stockholder who commenced or joined such proceeding as a named party without the approval of the Delaware Court of Chancery, and such approval may be conditioned upon such terms as the Delaware Court of Chancery deems just.

Failure by any Theraclone stockholder to comply fully with the procedures described above and set forth in Annex G to this proxy statement/prospectus/consent solicitation may result in the loss of such stockholder's appraisal rights. In view of the complexity of exercising appraisal rights under Delaware law, any Theraclone stockholder considering exercising these rights should consult with legal counsel.

## THE MERGER AGREEMENT

*The following is a summary of selected provisions of the Merger Agreement. While PharmAthene, Merger Sub, and Theraclone believe that this description covers the material terms of the Merger Agreement, it may not contain all of the information that is important to you. The Merger Agreement has been attached as Annex A to this proxy statement/prospectus/consent solicitation to provide you with information regarding its terms. It is not intended to provide any other factual information about PharmAthene, Merger Sub, or Theraclone. The following description does not purport to be complete and is qualified in its entirety by reference to the Merger Agreement. You should refer to the full text of the Merger Agreement for details of the merger and the terms and conditions of the Merger Agreement.*

*The Merger Agreement contains representations and warranties that PharmAthene and Merger Sub, on the one hand, and Theraclone, on the other hand, have made to one another as of specific dates. These representations and warranties have been made for the benefit of the other parties to the Merger Agreement and may be intended not as statements of fact but rather as a way of allocating the risk to one of the parties if those statements prove to be incorrect. In addition, the assertions embodied in the representations and warranties are qualified by information in confidential disclosure schedules exchanged by the parties in connection with signing the Merger Agreement. While PharmAthene and Theraclone do not believe that these disclosure schedules contain information required to be publicly disclosed under the applicable securities laws, other than information that has already been so disclosed, the disclosure schedules do contain information that modifies, qualifies and creates exceptions to the representations and warranties set forth in the attached Merger Agreement. Accordingly, you should not rely on the representations and warranties as current characterizations of factual information about PharmAthene or Theraclone, because they were made as of specific dates, may be intended merely as a risk allocation mechanism between PharmAthene and Theraclone and are modified by the disclosure schedules.*

### General

Under the Merger Agreement, Merger Sub, a wholly owned subsidiary of PharmAthene incorporated by PharmAthene in connection with the merger, will merge with and into Theraclone, with Theraclone continuing as a wholly owned subsidiary of PharmAthene.

### Effective Time of the Merger

The Merger Agreement requires the parties to consummate the merger on the second business day after all of the conditions to the consummation of the merger contained in the Merger Agreement are satisfied or waived, including the adoption and the approval of the Merger Agreement by Theraclone's stockholders and the approval by PharmAthene's stockholders of the issuance of PharmAthene common stock, or such other date as PharmAthene and Theraclone may mutually agree in writing. The merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware, or at such later time as is agreed by PharmAthene and Theraclone and specified in the certificate of merger. Neither PharmAthene nor Theraclone can predict the exact timing of the consummation of the merger.

### Merger Consideration

All outstanding shares of Theraclone preferred stock will be converted into shares of Theraclone common stock on a one-for-one basis immediately prior to the Effective Time, subject to the approval of such conversion by Theraclone's preferred stockholders. At the Effective Time, all outstanding shares of Theraclone common stock will be converted into shares of PharmAthene common stock. Upon completion of the merger, PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis.

At the Effective Time:

- each share of Theraclone common stock outstanding immediately prior to the Effective Time will automatically be converted into the right to receive a number of shares of PharmAthene common stock equal to the quotient obtained by dividing the fully diluted equity (as defined below) of PharmAthene by the fully diluted equity of Theraclone, less a pro rata share of PharmAthene common stock representing five percent of the merger consideration issuable to the stockholders of Theraclone, which will be held in escrow pursuant to the terms of the escrow agreement, as described in further detail below, except that holders of Theraclone common stock will receive cash in lieu of fractional shares;
- each option to purchase shares of Theraclone common stock outstanding and unexercised immediately prior to the Effective Time will be assumed by PharmAthene and will become an option to purchase that number of shares of the common stock of the combined company equal to the product of (i) the number of Theraclone shares of common stock underlying the option and (ii) the quotient obtained by dividing the fully diluted equity of PharmAthene by the fully diluted equity of Theraclone; and
- each warrant to purchase shares of Theraclone capital stock outstanding and not terminated or exercised immediately prior to the Effective Time will be assumed by PharmAthene and will become a warrant to purchase that number of shares of PharmAthene common stock equal to the product of (i) the number of Theraclone shares of capital stock underlying the warrant and (ii) the quotient obtained by dividing the fully diluted equity of PharmAthene by the fully diluted equity of Theraclone.

Fully diluted equity means, with respect to PharmAthene, the total number of shares outstanding of PharmAthene common stock, assuming full conversion or exercise of all then-outstanding options and warrants, which, in each case, have an exercise price less than or equal to $2.50 per share, and convertible securities, and with respect to Theraclone, the total number of shares outstanding of Theraclone common stock, assuming full conversion or exercise of all then-outstanding options and warrants and all convertible securities.

At the Effective Time, five percent of the merger consideration issuable to the stockholders of Theraclone will be deposited with Citibank, N.A., as escrow agent under a separate escrow agreement to be entered into prior to the completion of the merger. These escrow shares will be held in escrow for a period of nine months after the closing date and will serve to secure the Theraclone stockholders' indemnification obligations under the Merger Agreement. The escrow agreement is described in further detail under "— Indemnification Obligations" below.

**Fractional Shares**

No fractional shares of PharmAthene common stock will be issuable pursuant to the merger to Theraclone's stockholders. Instead, each Theraclone stockholder who would otherwise be entitled to receive a fraction of a share of PharmAthene common stock, after aggregating all fractional shares of PharmAthene common stock issuable to such stockholder, will be entitled to receive in cash the dollar amount, rounded to the nearest whole cent determined by multiplying such fraction by the closing price of a share of PharmAthene common stock as quoted on NYSE MKT on the date the merger becomes effective.

**Exchange of Stock Certificates**

The Merger Agreement provides that, at the Effective Time, PharmAthene will deposit with Continental Stock Transfer and Trust Company stock certificates representing the shares of PharmAthene common stock issuable to the Theraclone stockholders, less the escrow shares.

The Merger Agreement provides that, as soon as reasonably practicable after the Effective Time, and in any event within five business days, the exchange agent will mail to each record holder of Theraclone common stock immediately prior to the Effective Time a letter of transmittal and instructions for surrendering and exchanging the record holder's Theraclone stock certificates for shares of PharmAthene common stock. Upon surrender of a Theraclone stock certificate for exchange to the exchange agent, together with a duly signed letter of transmittal and such other documents as the exchange agent may reasonably require, the

Theraclone stock certificate surrendered will be cancelled and the holder of the Theraclone stock certificate will be entitled to receive the following:

- a certificate representing the number of whole shares of PharmAthene common stock that such holder has the right to receive pursuant to the provisions of the Merger Agreement;
- dividends or other distributions, if any, declared or made with respect to PharmAthene common stock with a record date after the Effective Time; and
- in lieu of any fractional share of PharmAthene common stock and at the Effective Time, all holders of certificates representing shares of Theraclone common stock that were outstanding immediately prior to the Effective Time will cease to have any rights as stockholders of Theraclone. In addition, no transfer of Theraclone common stock after the Effective Time will be registered on the stock transfer books of Theraclone.

If any Theraclone stock certificate has been lost, stolen or destroyed, PharmAthene may, in its discretion, and as a condition to the delivery of any shares of PharmAthene common stock, the exchange agent will require the owner of such lost, stolen or destroyed certificate to deliver an affidavit claiming such certificate has been lost, stolen or destroyed.

From and after the Effective Time, until it is surrendered, each certificate that previously evidenced Theraclone stock will be deemed to represent only the right to receive shares of PharmAthene common stock and cash in lieu of any fractional share of PharmAthene common stock. PharmAthene will not pay dividends or other distributions on any shares of PharmAthene common stock to be issued in exchange for any unsurrendered Theraclone stock certificate until the Theraclone stock certificate is surrendered as provided in the Merger Agreement.

**Indemnification Obligations**

The Theraclone stockholders will indemnify and hold harmless PharmAthene and its directors, officers, stockholders, employees, agents, subsidiaries and affiliates, and will reimburse such persons for, any loss, liability, damage or expense, including reasonable out-of-pocket costs of investigation and defense of claims and reasonable attorneys' fees and expenses incurred by such persons arising for any breach of any representation, warranty covenant, or agreement of Theraclone in the Merger Agreement for a period of nine months after the closing date. No Theraclone stockholder will have any obligation to indemnify the persons described above unless all losses for all indemnification claims made by such persons exceeds $1,000,000 in the aggregate, in which event the Theraclone stockholders will be liable for all losses from the first dollar above $1,000,000. Absent fraud or willful misconduct, no Theraclone stockholder will be liable for any losses in excess of their *pro rata* share of the escrowed shares.

At the Effective Time, five percent of the merger consideration issuable to the stockholders of Theraclone will be deposited with Citibank, N.A., as escrow agent under a separate escrow agreement to be entered into prior to the completion of the merger. These Escrow Shares will serve to secure the Theraclone stockholders' indemnification obligations under the Merger Agreement.

Neither PharmAthene nor the surviving subsidiary will have any obligation to indemnify the Theraclone stockholders for any breach of any representation or warranty made by, or any covenant or agreement of, PharmAthene or Merger Sub under the Merger Agreement.

**Directors and Executive Officers of PharmAthene following the Merger**

Following the merger, the combined company's Board of Directors will consist of five directors designated by PharmAthene and four directors designated by Theraclone. Those members designated by PharmAthene will initially be Mitch Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman and Derace L. Schaffer, M.D., and those members initially designated by Theraclone will be Steven Gillis, Ph.D., Wende S. Hutton, Steven P. James and Clifford J. Stocks.

Effective as of the closing of the merger, the combined company's executive officers will be Clifford J. Stocks (Chief Executive Officer), Francesca M. Cook (Senior Vice President, Policy and Government Affairs), Russ Hawkinson (Chief Financial Officer), Jordan P. Karp (Senior Vice President and General Counsel),

Eleanor Ramos, M.D. (Chief Medical Officer) and Kristine Swiderek, Ph.D. (Chief Scientific Officer). Each of these executive officers of the combined company currently holds the same position at his or her respective company.

**Conditions to Completion of the Merger**

Each party's obligation to complete the merger is subject to the satisfaction or waiver by each of the parties, at or before the merger, of various conditions, which include the following:

- stockholders of Theraclone must have approved and adopted the merger;
- stockholders of PharmAthene must have approved the issuance of PharmAthene common stock in the merger and an amendment to PharmAthene's certificate of incorporation to increase the authorized number of shares of common stock;
- the election to PharmAthene's Board of Directors of the nominees designated by PharmAthene and the nominees designated by Theraclone;
- there must not be any law, judgment, injunction, order or decree by any court or other tribunal of competent jurisdiction that prohibits the consummation of the merger;
- the shares of PharmAthene common stock to be issued in the merger must be approved for listing on NYSE MKT, subject to official notice of issuance;
- the registration statement on Form S-4, of which this proxy statement/prospectus/consent solicitation is a part, must have been declared effective by the SEC in accordance with the Securities Act and must not be subject to any stop order or proceeding, or any proceeding threatened by the SEC, seeking a stop order; and
- an amendment to the PharmAthene Bylaws shall have been approved by the PharmAthene stockholders that provides that, effective as of the Effective Time, Clifford J. Stocks may not be removed from his position as Chief Executive Officer of PharmAthene without the approval of at least 66 2/3% of the Board of Directors of PharmAthene, until the earliest of (a) July 31, 2015, (b) such time as there is a period longer than 30 days in which less than five PharmAthene board designees serve on the combined company's Board of Directors, and (c) the full settlement or final, non-appealable resolution of PharmAthene's civil action against SIGA, or the SIGA Resolution; provided, however, that, in the event of that the SIGA Resolution occurs prior to the first anniversary of the completion of the merger, the SIGA Resolution will be deemed to have occurred on the first anniversary of the closing of the merger.

In addition, each party's obligation to complete the merger is further subject to the satisfaction or waiver by that party of the following additional conditions:

- representations and warranties of the other party in the Merger Agreement must be true and correct on the date of the Merger Agreement and on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date, except where the failure of these representations and warranties to be true and correct, individually or in the aggregate, would not reasonably be expected to have a material adverse effect on the party making the representations and warranties;
- the other party to the Merger Agreement must have performed or complied with in all material respects all obligations and agreements required to be performed or complied with by it on or before the closing of the merger;
- the other party must have delivered certain certificates and other documents required under the Merger Agreement for the closing of the merger, including the escrow agreement and Board Composition Agreement; and

- there shall have been no change, effect, event, occurrence, or state of facts that is or would reasonably be expected to be materially adverse to the assets, properties, business or financial condition or results of operations of such party or prevent or materially delay the performance by such party of any of its obligations under the Merger Agreement.

In addition, the obligation of PharmAthene and Merger Sub to complete the merger is further subject to the satisfaction or waiver of the following conditions:

- no more than five percent of the total issued and outstanding shares of PharmAthene common stock have delivered written demands for appraisal in accordance with the DGCL (PharmAthene stockholders do not have appraisal rights in this merger);
- the post-closing lock-up agreement entered into by certain stockholders of Theraclone in connection with the execution of the Merger Agreement shall continue to be in full force and effect; and
- all $8,000,000 of capital committed to Theraclone pursuant to its Series B-1 Preferred Stock and Warrant Purchase and Exchange Agreement shall have been received by Theraclone.

**No Solicitation**

PharmAthene agreed that, except as described below, it will not, and will not permit any of its subsidiaries, or authorize or permit any of its or their officers, directors, employees, or other agents to, directly or indirectly:

- solicit, initiate, or knowingly encourage the submission of any inquiries concerning, or the making of any proposal or offer that constitutes, or could reasonably be expected to lead to, a PharmAthene takeover proposal, as defined in the Merger Agreement and summarized below;
- enter into any agreement, letter of intent, agreement in principle or other similar instrument with respect to any PharmAthene takeover proposal;
- provide any non-public information regarding PharmAthene or its subsidiaries to any third party or engage in any negotiations or discussions in connection with any PharmAthene takeover proposal or otherwise knowingly cooperate with or assist or participate in or knowingly encourage any such negotiations or discussions;
- approve or recommend a PharmAthene takeover proposal, or resolve or authorize an intention to approve or recommend, or execute or enter into, any acquisition agreement;
- submit to the stockholders of PharmAthene for their approval or adoption any PharmAthene takeover proposal;
- withdraw, rescind, qualify or modify, or propose publicly to withdraw, rescind, qualify or modify, in a manner adverse to Theraclone, the recommendation by the PharmAthene Board of Directors to vote in favor of the merger or the approval by the PharmAthene Board of Directors or such committee of the Merger Agreement or the merger or resolve or authorize an intention to do any of the foregoing;
- if a tender offer or exchange offer for shares of capital stock of PharmAthene that constitutes an PharmAthene takeover proposal is commenced, fail to publicly recommend against acceptance of such tender offer or exchange offer by the stockholders of PharmAthene (taking no position with respect to the acceptance of such tender offer or exchange offer by the stockholders of PharmAthene, shall constitute a failure to recommend against acceptance of such tender offer or exchange offer) within ten business days after commencement thereof or fail to reaffirm the PharmAthene recommendation within four business days after Theraclone so requests in writing;
- approve (by resolution of the PharmAthene Board of Directors, any committee thereof or otherwise), support, enter into or adopt or recommend to any holders of PharmAthene shares, or propose any of the foregoing with respect to, any letter of intent or similar document, contract, commitment or

agreement in principle (whether written or oral, binding or nonbinding) that may reasonably be expected to cause PharmAthene to abandon, terminate or fail to consummate the Merger Agreement or the transactions contemplated hereby; or

- agree or publicly announce any intention to take any of the foregoing actions.

Notwithstanding the foregoing, the PharmAthene Board of Directors may, at any time prior to closing:

- in response to an unsolicited, bona fide, written PharmAthene superior proposal, if the PharmAthene Board of Directors reasonably determines in good faith, after consultation with its outside counsel and its outside financial advisor, that failing to take the following action would be a breach of its fiduciary duties under applicable law:
  - withdraw its recommendation that PharmAthene consummate the merger, or
  - terminate this Agreement, or
- in the event that, after the date hereof, the Court of Chancery of the State of Delaware shall have rendered a substantive decision on the merits in that certain litigation matter between PharmAthene and SIGA, and, within 20 business days after the entry of such decision, the PharmAthene Board of Directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the merger a merger of equals,
  - withdraw its recommendation that PharmAthene consummate the merger, or
  - terminate the Merger Agreement.

A PharmAthene takeover proposal means any proposal or offer from any person relating to any of the following:

- any direct or indirect acquisition or purchase (including any sale, lease, exchange, transfer or license) of a business or assets that constitutes 50% or more of the net revenues, net income or the assets of PharmAthene and its subsidiaries on a consolidated basis;
- any direct or indirect acquisition or purchase of 50% or more of the equity capital stock of PharmAthene or any of its subsidiaries;
- tender offer or exchange offer that if consummated would result in any person beneficially owning 50% of the equity capital stock of PharmAthene or any of its subsidiaries; or
- merger, consolidation, business combination, recapitalization, liquidation, dissolution or similar transaction involving PharmAthene or any of its subsidiaries, in each case that does not include Theraclone following the merger contemplated by the Merger Agreement.

However, before (i) obtaining the applicable PharmAthene stockholders approval required to consummate the merger and (ii) such time, if any, that the Delaware Chancery Court shall have rendered a substantive decision on the merits in that certain litigation matter between PharmAthene and SIGA and the PharmAthene Board of Directors makes a timely determination that, as a result of such decision, it can no longer consider the merger a merger of equals, PharmAthene or its representatives may furnish nonpublic information regarding such party and its subsidiaries to, and may enter into negotiations or discussions with, any third party making such PharmAthene takeover proposal made or received after the date of the Merger Agreement and its representatives and financing sources, if:

- the acquisition proposal was not solicited in violation of the provisions described above;
- PharmAthene's Board of Directors determines in good faith, after consultation with its outside financial advisor and its legal counsel, that such PharmAthene takeover proposal constitutes or would reasonably be expected to result in a PharmAthene superior proposal, as is defined in the Merger Agreement and summarized below, and the failure to take such action would be reasonably likely to result in a breach of the fiduciary duties of PharmAthene's Board of Directors under applicable legal requirements;

- PharmAthene gives Theraclone prior written notice of its intention to furnish information to, or enter into discussions with, such person before furnishing any information or entering into discussions with such person;
- PharmAthene receives from the person making the PharmAthene takeover proposal an executed confidentiality agreement containing provisions at least as favorable to such party as those contained in the confidentiality agreement between PharmAthene and Theraclone; and
- prior to the furnishing of any nonpublic information to the person making the PharmAthene takeover proposal, PharmAthene furnishes the same nonpublic information to Theraclone to the extent not previously furnished.

A PharmAthene superior offer means an unsolicited, *bona fide* written PharmAthene takeover proposal made by a third party that the PharmAthene Board of Directors reasonably determines, after consultation with PharmAthene's outside financial advisor and outside legal counsel, and after taking into account any other factors determined by the PharmAthene Board of Directors to be relevant:

- is more favorable from a financial point of view to PharmAthene's stockholders than the merger and the transactions contemplated by the Merger Agreement;
- is reasonably likely to be completed; and
- that failing to accept such proposal would be a breach of its fiduciary duties under applicable law.

*provided*, *however*, that any such offer shall not be deemed to be a PharmAthene superior proposal if any financing required to consummate the transaction contemplated by such offer is not committed and is not reasonably likely of being obtained by such third party as determined by the PharmAthene Board of Directors in its reasonable judgment, or if the consummation of such transaction is contingent on any such financing being obtained.

The Merger Agreement also provides that PharmAthene will not withdraw its recommendation to proceed with the merger or terminate the Merger Agreement for purposes of entering into an agreement with respect to a PharmAthene superior proposal unless it has first given Theraclone three business days' advance notice and the opportunity to propose terms that are at least as favorable as those of the superior offer. PharmAthene agreed to promptly advise Theraclone of the status and terms of, and keep Theraclone informed in all material respects with respect to the status and terms of any such PharmAthene takeover proposal or related inquiry and any modification or proposed modification to such PharmAthene takeover proposal or related inquiry.

**Stockholder Approval**

PharmAthene is obligated under the Merger Agreement to take all action necessary in accordance with the Delaware General Corporation Law and PharmAthene's Certificate of Incorporation and Bylaws to call, give notice of and hold a special meeting of its stockholders for the purposes of considering the issuance of shares of PharmAthene common stock in the merger, the amendment to the PharmAthene Certificate of Incorporation increasing the number of authorized shares, the election of the PharmAthene and Theraclone board designees, the amendment to the PharmAthene Bylaws limiting the ability of the Board of Directors to remove PharmAthene's Chief Executive Officer, as promptly as reasonably practicable after the mailing of this proxy statement/prospectus/consent solicitation.

Theraclone is obligated under the Merger Agreement to obtain written consent of its stockholders sufficient to adopt and approve the Merger Agreement, the merger, and to convert of the shares of Theraclone preferred stock to shares of Theraclone common stock on a one-for-one basis. Theraclone has agreed to take all action necessary in accordance with the Delaware General Corporation Law and the Theraclone Certificate of Incorporation and Bylaws to solicit approval by written consent from Theraclone's stockholders promptly after the effective date of the registration statement of which this proxy statement/prospectus/consent solicitation forms a part.

**Covenants; Conduct of Business Pending the Merger**

PharmAthene and Theraclone each agreed that it will conduct its business in the ordinary course in accordance with past practices and preserve substantially intact its current business organizations, keep

available the services of its current officers and employees and to preserve its relationships with significant suppliers, licensors, licensees, distributors, lessors and others having significant business dealings with it, and to take other agreed upon actions. Each party also agreed that, subject to certain limited exceptions and except as contemplated by the Merger Agreement, without the consent of the other party, it would not, during the period prior to closing of the merger:

- authorize, declare, or pay any dividends on, or make any other distribution in respect of, any shares of capital stock;
- split, combine, or reclassify any of its capital stock or other equity securities or issue or authorize or propose the issuance of any other securities in respect of, in lieu of or in substitution for shares of its capital stock or other equity securities;
- grant, or commit to grant, any stock options, stock appreciation rights, restricted shares, restricted stock units, deferred equity units, awards based on the value of such party's common stock, or other equity-based awards with respect to such party's common stock, under any equity incentive plan or otherwise, in each case except for grants to such party's employees in the ordinary course of business or to a new employee in a manner consistent with past practice;
- except as required by applicable law, increase or commit to increase the compensation or other benefits payable or provided to such party's current or former directors, officers, employees, consultants, or independent contractors, enter into or commit to enter into any employment, change of control, severance, retention, deferred compensation, indemnification, or similar agreement with any director, officer, employee, consultant, or independent contractor of such party, other than (i) in the ordinary course of business with respect to a new employee in a manner consistent with past practice or (ii) for employment agreements terminable on less than thirty days' notice without penalty or cost, including severance, or except as permitted pursuant to clause (i) or (ii) above or as required pursuant to the terms of any of such party's existing benefit plans, establish, or commit to establish, any collective bargaining agreement, plan, trust, fund, policy, or arrangement, or benefit plan for the benefit of any current or former directors, officers, employees, consultants, or independent contractors, or any of their beneficiaries;
- materially change financial accounting policies or procedures or any of its methods of reporting income, deductions or other material items for financial accounting purposes, except as required by generally accepted accounting principles, SEC rule or policy or applicable law;
- adopt any amendments to the such party's Certificate of Incorporation or Bylaws (other than as contemplated by the Merger Agreement);
- issue, sell, pledge, dispose of or encumber, or authorize the issuance, sale, pledge, disposition or encumbrance of, any shares of its capital stock or other ownership interest in such party or any securities convertible into or exchangeable for any such shares or ownership interest, or any rights, warrants or options to acquire or with respect to any such shares of capital stock, ownership interest or convertible or exchangeable securities or take any action to cause to be exercisable any otherwise unvested stock option, or cause to be vested any unvested share-based award in such party, under such party's equity incentive plan (except as otherwise provided by the terms of this Agreement or for nondiscretionary actions pursuant to the express terms of any unvested stock options or unvested share-based awards outstanding on the date of the Merger Agreement), other than (i) issuances of such party's common shares in respect of any exercise of stock options and settlement of any share-based awards or warrants outstanding on the date of the Merger Agreement (in accordance with their respective terms), or that may be granted after the date of the Merger Agreement, and (ii) the sale of such party's common shares pursuant to the exercise of stock options to purchase such party's common shares if necessary to effectuate an optionee direction upon exercise or for withholding of taxes;

- directly or indirectly, purchase, redeem or otherwise acquire any shares of its capital stock or any rights, warrants or options to acquire any such shares, other than purchases or deemed acquisitions of its common shares in respect of the exercise price or tax withholding obligations relating to a share-based award upon the net exercise or vesting of any such award in a manner consistent with past practice;
- incur, assume, guarantee, prepay, redeem, repurchase or otherwise become liable for, or modify in any material respect the terms of, any indebtedness for borrowed money or become responsible for the indebtedness of any person, other than in the ordinary course of business consistent with past practice and except for (i) indebtedness for borrowed money incurred to replace, renew, extend, refinance or refund any existing indebtedness for borrowed money that (a) is in an amount not exceeding such existing Indebtedness, (b) is on terms no less favorable in the aggregate than such existing indebtedness and (c) that does not contain provisions that will result in the occurrence of a default or event of default upon the consummation of the merger or (ii) guarantees by such party of indebtedness for borrowed money of such party, which indebtedness for borrowed money is incurred in compliance with the Merger Agreement;
- sell, lease, license, transfer, exchange or swap, mortgage or otherwise encumber, or subject to any lien (other than permitted liens) or otherwise dispose of any material portion of its properties or assets and except pursuant to existing agreements in effect prior to the execution of the Merger Agreement and listed in the disclosure schedule to the Merger Agreement;
- modify, amend, terminate or waive any rights under any of such party's material contracts or real property leases, in any manner the effect of which is, individually or in the aggregate, materially adverse to such party;
- enter into any contract that would be a material contract of such party or real property lease if it was in effect on the date of the Merger Agreement, other than in the ordinary course of business consistent with past practice;
- acquire any corporation, partnership or other business organization or division thereof or any assets, other than purchases of inventory and other assets in the ordinary course of business consistent with past practice;
- authorize or make any capital expenditures, other than in accordance with such party's capital expenditures plan set forth on the disclosure schedule to the Merger Agreement, in connection with the repair or replacement of facilities destroyed or damaged due to casualty or accident, and otherwise in an aggregate amount for all such capital expenditures not to exceed $250,000;
- make any loans, advances or capital contributions to, or investments in, any person;
- enter into, amend, waive or terminate any transactions, agreements or arrangements with such party's affiliates in any material respect;
- abandon, fail to maintain and renew, or otherwise let lapse, any material intellectual property of such party;
- adopt or enter into a plan of complete or partial liquidation, dissolution, restructuring, recapitalization or other reorganization of such party;
- waive, settle, satisfy or compromise any actions, suits, arbitrations, mediations or proceedings, other than any such actions, suits, arbitrations, mediations or proceedings not in excess of $250,000 individually or in the aggregate, except for any actions, suits, arbitrations, mediations or proceedings where such party is the plaintiff, in which case, such party may waive, settle, satisfy or compromise, provided that any such waiver, settlement, satisfaction or compromise does not result in an obligation of such party to pay money or have any other obligation to the counterparty as a result thereof, or waive, settle, satisfy or compromise any pending or threatened actions, suits, arbitrations, mediations or proceedings arising out of or related to the Merger Agreement or the transactions contemplated thereby; or

- agree, in writing or otherwise, or announce an intention, to take any of the foregoing actions.

**Other Agreements**

Each of PharmAthene and Theraclone has agreed to use its commercially reasonable efforts to:

- prepare and timely file all tax returns required to be filed by it (or them) on or before the closing date in a manner consistent with past practice, except as otherwise required by a change in applicable law;
- consult with the other party with respect to all material closing agreements, issue resolution agreements and other agreements or confirmations to be executed or entered into or received by such party with or from the IRS;
- fully and timely pay all material taxes due and payable in respect of such post-signing tax returns that are so filed, or for any such taxes as to which there is a good faith dispute, provide for adequate reserves on the financial statements of such party;
- properly reserve for all taxes payable by them for which no post-signing tax return is due prior to the closing date in a manner consistent with past practice;
- promptly notify the other party of any material actions, suits, arbitrations, mediations or proceedings or audit pending or threatened against such party in respect of any material tax matter, including tax liabilities and refund claims;
- not make (except in the ordinary course of business) or revoke any material election with regard to taxes or file any material amended tax returns, without the prior written consent of the other party;
- not make (except in the ordinary course of business) any change in any tax or accounting methods or systems of internal accounting controls (including procedures with respect to the payment of accounts payable and collection of accounts receivable), except as may be appropriate to conform to changes in tax laws or regulatory accounting requirements, without the prior written consent of the other party;
- terminate all tax allocation, indemnification or sharing agreements to which such party is a party such that there are no further liabilities thereunder; and
- in the case of PharmAthene, maintain its existing listing on NYSE MKT and file or furnish all forms, documents and reports required to be filed or furnished with the SEC, which forms, documents and reports shall comply in all material respects with the requirements of the Securities Act and the Exchange Act, as the case may be, and the applicable rules and regulations promulgated thereunder, and none of such forms, documents and reports shall contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

PharmAthene and Theraclone also agreed that:

- each of the parties will afford to the other party and their representatives reasonable access to, upon one business days' prior notice during normal business hours to its officers, properties, contracts, commitments, books and records and any report, schedule or other document filed or received by it pursuant to the requirements of applicable laws, and shall furnish the other party and its representatives with financial, operating and other data and information as the other party may from time to time reasonably request;
- each of the parties will use reasonable best efforts to take or cause to be taken such actions as may be required under federal securities laws and any applicable state securities or "blue sky" laws and any stock exchange requirements in connection with the merger and the other transactions contemplated by the Merger Agreement;
- PharmAthene will include this proxy statement/prospectus/consent solicitation the recommendation of its Board of Directors that its stockholders approve the amendment to its Bylaws described under "— Conditions to Completion of the Merger" above;

- Each of PharmAthene and Merger Sub will indemnify all individuals who are present or former directors and officers or who become, prior to the Effective Time, directors, officers, employees and agents of Theraclone, to the fullest extent permitted by the DGCL until the expiration of the applicable statute of limitations with respect to any such claims;
- Theraclone may obtain at or prior to the Effective Time directors' and officers' liability insurance policies in respect of acts or omissions occurring at or prior to the Effective Time and for a period of six years after the Effective Time;
- PharmAthene will use its reasonable efforts to cause the shares of PharmAthene common stock to be issued in the merger to be approved for listing on NYSE MKT, subject to official issuance, prior to the Effective Time; and
- PharmAthene agreed to take all requisite action to cause, effective as of the Effective Time, the Board of Directors of PharmAthene to consist of directors described under "— Directors and Officers of PharmAthene Following the Merger" above.

**Termination**

The Merger Agreement may be terminated at any time before the completion of the merger, as set forth below:

- by mutual written consent of each of PharmAthene and Theraclone;
- by either PharmAthene or Theraclone if the merger has not been completed by January 31, 2014, but this right to terminate the Merger Agreement will not be available to any party whose action or failure to act has been a principal cause of the failure of the merger to be completed on or before such date and such action or failure to act constitutes a breach of the Merger Agreement, and this right to terminate will not be available for an additional 60 days upon request of either party if the SEC has not declared the registration statement, of which this proxy statement/prospectus/consent solicitation forms a part, effective under the Securities Act by October 4, 2013. In addition, this right is not available to PharmAthene before the time at which the PharmAthene stockholder meeting is held at which a quorum necessary to conduct the business of such meeting was present at all times;
- by PharmAthene or Theraclone if a governmental entity of competent jurisdiction has issued a final and nonappealable injunction, order, decree or ruling that permanently restrains, enjoins or otherwise prohibits the merger, but this right to terminate will not be available to any party whose material breach of a representation, warranty, covenant, or agreement has been the principal cause of the entry of such final and non-appealable injunction, order, decree or ruling;
- by either PharmAthene or Theraclone if the stockholders of PharmAthene have not approved the issuance of the shares pursuant to the Merger Agreement at the PharmAthene special meeting or any adjournments or postponements thereof, but PharmAthene may not terminate the Merger Agreement pursuant to this provision if the failure to obtain the approval of PharmAthene stockholders was caused by the action or failure to act of PharmAthene;
- by Theraclone if:
  - PharmAthene has breached or failed to perform any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of PharmAthene has become untrue as of any date subsequent to the Merger Agreement, in either case such that the conditions to the closing of the merger would not be satisfied as of time of such breach or inaccuracy, but if such breach or inaccuracy is curable, then the Merger Agreement will not terminate pursuant to this provision as a result of a particular breach unless such breach or failure is not cured by the thirtieth calendar day following receipt of written notice of such breach or failure to perform from Theraclone, but this right to terminate will not be available to Theraclone if it is then in breach of a representation, warranty, covenant, or agreement such that the conditions to the closing of the merger would not be satisfied as of the time of such breach or inaccuracy;

- the PharmAthene Board of Directors (or any committee thereof) shall have withdrawn its recommendation that PharmAthene proceed with the merger, or failed to recommend the merger to the PharmAthene stockholders in this proxy statement/prospectus/consent solicitation, the PharmAthene Board of Directors shall have recommended or approved any PharmAthene takeover proposal, the PharmAthene Board of Directors shall have failed to publicly reaffirm its recommendation that PharmAthene proceed with the merger within four business days following receipt of a written request by Theraclone to provide such reaffirmation following a PharmAthene takeover proposal or PharmAthene shall have otherwise breached its "no solicitation" obligations in any material respect; or

- by PharmAthene if:

  - Theraclone has breached or failed to perform any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of Theraclone has become untrue as of any date subsequent to the Merger Agreement, in either case such that the conditions to the closing of the merger would not be satisfied as of time of such breach or inaccuracy, but if such breach or inaccuracy is curable, then the Merger Agreement will not terminate pursuant to this provision as a result of a particular breach unless such breach or failure is not cured by the thirtieth calendar day following receipt of written notice of such breach or failure to perform from PharmAthene, but this right to terminate will not be available to PharmAthene if it is then in breach of a representation, warranty, covenant, or agreement such that the conditions to the closing of the merger would not be satisfied as of the time of such breach or inaccuracy; or

  - prior to the receipt of the PharmAthene stockholder approval, if the PharmAthene Board of Directors shall have approved, and PharmAthene shall promptly following such termination enter into, a definitive agreement providing for a PharmAthene superior proposal, or pursuant to its right to terminate if, after the date hereof, the Court of Chancery of the State of Delaware shall have rendered a substantive decision on the merits in that certain litigation matter between PharmAthene and SIGA and the PharmAthene Board of Directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the merger a merger of equals.

**Termination Fee**

**Fee payable by PharmAthene**

PharmAthene must pay Theraclone a break-up fee of $3.5 million if the Merger Agreement is terminated by PharmAthene because it has entered into a definitive agreement providing for a PharmAthene superior proposal, or if either party terminates because the merger has not been completed prior to the outside closing date or the PharmAthene stockholders have failed to consent to the merger, but only if a PharmAthene takeover proposal has been publicly announced, disclosed, made, proposed or communicated and within nine months after the date of the termination of the Merger Agreement, PharmAthene enters into an agreement or understanding with respect to a PharmAthene takeover proposal that is subsequently consummated.

PharmAthene must pay Theraclone a break-up fee of $4.5 million if the Merger Agreement is terminated by either party because the Delaware Chancery Court shall have rendered a substantive decision on the merits in that certain litigation matter between PharmAthene and SIGA and the PharmAthene Board of Directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the merger a merger of equals.

PharmAthene must pay Theraclone a termination fee equal to the actual and verifiable out-of-pocket costs and expenses of Theraclone in connection with the Merger Agreement and the transactions contemplated thereby, up to $1,000,000 in the aggregate, if the agreement is terminated for any reason other than a breach by Theraclone of the agreement, a governmental entity of competent jurisdiction issuing a final and nonappealable injunction, order, decree or ruling that permanently restrains, enjoins or otherwise prohibits the merger, or the mutual agreement of the parties, and PharmAthene is not otherwise obligated to pay a break-up fee to Theraclone.

**Fees payable by Theraclone**

The Merger Agreement does not provide for any circumstances under which Theraclone would be required to pay to PharmAthene a termination or breakup fee.

**Representations and Warranties**

The Merger Agreement contains customary representations and warranties of PharmAthene and Theraclone for a transaction of this type relating to, among other things:

- corporate organization and power and similar corporate matters;
- ownership of subsidiaries;
- authorized and outstanding capital stock, options and warrants;
- authority to enter into the Merger Agreement and the related agreements;
- approval by the Board of Directors;
- any conflicts or violations of each party's agreements as a result of the merger or the Merger Agreement;
- financial statements and, with respect to PharmAthene, documents filed with the SEC and the accuracy of information contained in those documents;
- with respect to PharmAthene, disclosure controls and procedures;
- any undisclosed liabilities;
- compliance with legal requirements;
- compliance with environmental laws;
- employee benefits and related matters;
- material changes or events;
- litigation matters;
- accuracy of the information provided by such party to be included in this proxy statement/prospectus/consent solicitation;
- filing of tax returns and payment of taxes;
- employee relations matters;
- ownership of intellectual property;
- ownership of real property and leasehold interests;
- votes required for completion of the merger and approval of the proposals that will come before each of the PharmAthene special meeting and the Theraclone written stockholder consent;
- absence provision in governing law or documents that would prohibit or restrict the ability of such party to consummate the merger or of the stockholders of such party who are party to such party's voting agreement to perform their respective obligations thereunder;
- the validity of material contracts to which the parties or their subsidiaries are a party and any violation, default or breach to such contracts;
- any brokerage or finder's fee or other fee or commission in connection with the merger;
- insurance policies, policy cancellations and claims;
- transactions with affiliates;
- regulatory compliance; and

- the validity of governmental contracts to which such parties or their subsidiaries are party and any violation, default or breach to such contracts.

The representations and warranties are, in many respects, qualified by materiality and knowledge, and, in the case of PharmAthene, will not survive the merger, but their accuracy forms the basis of one of the conditions to the obligations of PharmAthene and Theraclone to complete the merger.

**Amendment**

The Merger Agreement may be amended by the parties at any time, except that after the Merger Agreement has been adopted or approved by the stockholders of PharmAthene or stockholders of Theraclone, no amendment which by law requires further approval by the stockholders of PharmAthene or stockholders of Theraclone, as the case may be, shall be made without such further approval.

## VOTING AND OTHER AGREEMENTS

### Voting and Lock-up Agreements

In order to induce Theraclone to enter into the Merger Agreement, concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who in the aggregate, beneficially owned approximately 7.5% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of July 31, 2013, entered into the PharmAthene Voting Agreement pursuant to which each stockholder agreed to vote its shares of PharmAthene common stock in furtherance of the transactions contemplated by the Merger Agreement and against any amendment of PharmAthene's Certificate of Incorporation or Bylaws or any other proposal or transaction, the effect of which amendment or other proposal is to delay, impair, prevent or nullify the merger or the transaction contemplated by the Merger Agreement. Each of these stockholders granted Theraclone an irrevocable proxy to vote their respective PharmAthene common stock in accordance with the voting agreement. These stockholders may vote their shares of PharmAthene capital stock on all other matters not referred to in such proxy.

In addition to the PharmAthene Voting Agreement, certain of Theraclone's stockholders, who in the aggregate held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013, including MPM Funds, a principal stockholder of PharmAthene, entered into the Theraclone Voting Agreement, pursuant to which each stockholder agreed to vote its shares of Theraclone capital stock (i) in favor of the adoption of the Merger Agreement and any actions required in furtherance thereof, (ii) in favor of the conversion of all outstanding shares of Theraclone preferred stock into shares of Theraclone common stock on a one-for-one basis (as of immediately prior to the Effective Time and contingent upon the merger occurring) pursuant to Theraclone's Certificate of Incorporation, (iii) against any other proposal or transaction involving Theraclone, the effect of which amendment or other proposal or transaction would be to delay, impair, prevent or nullify the merger or the transactions contemplated by the Merger Agreement, (iv) against any amendment of Theraclone's Certificate of Incorporation or Bylaws that changes in any manner the voting rights of any capital stock of Theraclone (other than the conversion of Theraclone preferred stock into Theraclone common stock), and (v) against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty of the Merger Agreement. Each of these stockholders granted PharmAthene an irrevocable proxy to vote their respective Theraclone common stock in accordance with the voting agreement. These stockholders may vote their shares of Theraclone capital stock on all other matters not referred to in such proxy.

Pursuant to both the PharmAthene Voting Agreement and the Theraclone Voting Agreement, subject to certain limited exceptions, the stockholders who are party thereto also have agreed not to sell or transfer shares of the applicable party, or engage in hedging or similar transactions with regard to such shares. To the extent that any such sale or transfer is permitted pursuant to the exceptions included in the stockholders agreement, each person to whom any shares of the applicable party are so sold or transferred must agree in writing to be bound by the terms and provisions of the applicable voting agreement.

Both the PharmAthene Voting Agreement and the Theraclone Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. Copies of the PharmAthene Voting Agreement and Theraclone Voting Agreement are attached as Annex B and Annex C, respectively, to this proxy statement/prospectus/consent solicitation.

### Theraclone Post-Closing Lock-up Agreement

Concurrently and in connection with the execution of the Merger Agreement, the directors of Theraclone and their affiliates, as well as certain holders of 5% or more of Theraclone's capital stock, who, in the aggregate, held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013, entered into post-closing lock-up agreements with PharmAthene. Pursuant to these agreements, subject to certain limited exceptions, each such stockholder will be subject to lock-up restrictions on the sale of PharmAthene common stock acquired in the merger, pursuant to which 33% of the shares obtained in the merger may be sold six months after the completion of the merger, 66% may be sold nine months after the completion of the merger, and 100% may be sold after the first anniversary of the date of completion of the merger. To the extent that any such sale or transfer is permitted pursuant to the exceptions included in the voting agreement, each person to whom any shares of PharmAthene common stock are so sold or transferred

must agree in writing to be bound by the terms and provisions of the stockholder agreement. A copy of the form of Post-Closing Lock-up Agreement is attached as Annex E to this proxy statement/prospectus/consent solicitation.

**Board Composition Agreement**

Upon the completion of the merger, the stockholders of Theraclone and PharmAthene who are party to the voting agreements described above will also enter into the Board Composition Agreement, pursuant to which such stockholders will agree that the Board of Directors of the combined company will consist of five directors designated by PharmAthene and four directors designated by Theraclone. Those members designated by PharmAthene will initially be Mitchel Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman and Derace L. Schaffer, M.D., and those members designated by Theraclone will initially be Steven Gillis, Ph.D., Wende S. Hutton, Steven P. James and Clifford J. Stocks. Under the Board Composition Agreement, the signing stockholders will agree to vote all shares owned by such holders, or over which such holders have voting control, as necessary to ensure that the PharmAthene and Theraclone designees are elected to the board at each annual or special meeting of stockholders of PharmAthene at which directors are elected or through any action taken by written consent of the stockholders of PharmAthene by which directors are elected. The stockholders party thereto will also agree to cause the resignation of one of PharmAthene's designees upon the earlier of (i) the full settlement or final, non-appealable resolution of PharmAthene's civil action against SIGA and (ii) the second anniversary of the completion of the merger, but not prior to the first anniversary of the completion of the merger.

The Board Composition Agreement will terminate on the earliest to occur of the fifth anniversary of the date of the agreement and the date of any final resolution of PharmAthene's civil action against SIGA, but not prior to the first anniversary of completion of the merger. The stockholders party thereto may sell their shares free of the rights and obligations under the Board Composition Agreement. A copy of the form of Board Composition Agreement is attached as Annex D to this proxy statement/prospectus/consent solicitation.

## MANAGEMENT OF THE COMBINED COMPANY

The Board of Directors of the combined company will initially consist of five directors designated by PharmAthene, Mitch Sayare, Ph.D., John M. Gill, Brian A. Markison, Eric I. Richman and Derace L. Schaffer, M.D., and four directors designated by Theraclone, Steven Gillis, Ph.D., Wende S. Hutton, Steven P. James and Clifford J. Stocks.

Following the merger, the combined company's executive officers will be Clifford J. Stocks (Chief Executive Officer), Francesca M. Cook (Senior Vice President, Policy and Government Affairs), Russ Hawkinson (Chief Financial Officer), Jordan P. Karp (Senior Vice President and General Counsel), Eleanor Ramos, M.D. (Chief Medical Officer) and Kristine Swiderek, Ph.D. (Chief Scientific Officer). Each of these executive officers of the combined company currently holds the same position at his or her respective company.

The following table lists the names and ages as of October 4, 2013 and positions of the individuals who are expected to serve as executive officers, directors or key employees of the combined company upon completion of the merger:

| Name | Age | Position |
|---|---|---|
| Clifford J. Stocks | 55 | Chief Executive Officer and Director |
| Francesca M. Cook | 48 | Senior Vice President, Policy and Government Affairs |
| Russ Hawkinson | 54 | Chief Financial Officer |
| Jordan P. Karp | 47 | Senior Vice President and General Counsel |
| Eleanor Ramos, M.D. | 57 | Chief Medical Officer |
| Kristine Swiderek, Ph.D. | 51 | Chief Scientific Officer |
| Mitchel B. Sayare, Ph.D. | 65 | Director |
| John M. Gill | 61 | Director |
| Steven Gillis, Ph.D. | 60 | Director |
| Wende S. Hutton | 53 | Director |
| Steven P. James | 55 | Director |
| Brian A. Markison | 53 | Director |
| Eric I. Richman | 52 | Director |
| Derace L. Schaffer, M.D. | 65 | Director |
| Wayne Morges, Ph.D.* | 66 | Senior Vice President, Regulatory Affairs and Quality (Key Employee) |

* Mr. Morges will not be an executive officer or director of the combined company.

### Executive Officers

**Clifford J. Stocks.** Mr. Stocks has served as Theraclone's Chief Executive Officer and as a member of the Theraclone board of directors since December 2011. Prior to joining Theraclone, Mr. Stocks served as the Chief Business Officer of Calistoga Pharmaceuticals, Inc., a private biotechnology company specializing in medicines targeting the PI3 kinase pathway, from March 2009 to April 2011. At Calistoga he led the partnering and M&A processes, activities and teamwork that resulted in the acquisition of Calistoga by Gilead. From January 2007 to March 2009, Mr. Stocks served as the Co-founder and Managing Director of MarketGain Partners, a consulting firm focused on biotechnology and information technology clients. Mr. Stocks' career includes fifteen years at ICOS Corporation where he served as an Executive Officer and Vice President of Business Development. While at ICOS, he led acquisitions and joint venture activities as well as alliance formation, strategy and licensing. He played an instrumental role on the leadership team that developed and launched Cialis, and was a key architect of the Lilly ICOS joint venture partnership that led to their merger in 2007. Prior to ICOS he was a management consultant in the Health Services practice of Booz Allen Hamilton. Mr. Stocks holds a B.S. in biology from the University of Utah and an MBA from the University of Chicago, Booth Graduate School of Business. Mr. Stocks brings to the combined company's Board of Directors extensive experience in biotechnology enabling him to provide strategic corporate and operational guidance to the combined company's Board of Directors.

**Francesca M. Cook.** Ms. Cook has been PharmAthene's Senior Vice President, Policy and Government Affairs since March 2010, and in February 2012 took over responsibility for program management. Prior to that, she served as Vice President, Policy and Government Affairs since PharmAthene's merger on August 3, 2007 and from October 2003 through August 3, 2007 held the same position with Former PharmAthene. Prior to that, Ms. Cook served as Vice President, Policy & Reimbursement Services for Guilford Pharmaceuticals, Inc. from March 2001 through October 2003 and Vice President at Covance Health Economics and Outcomes Services, a health care consulting firm, from 1996 through 2001. Additionally, Ms. Cook worked in the U.S. Senate and the U.S. Department of Health and Human Services from 1988 through 1993. Ms. Cook received a B.A. degree in Biology from Mount Holyoke College and a Master of Public Health degree from Yale University School of Medicine, Department of Public Health.

**Russ Hawkinson.** Mr. Hawkinson has served as Theraclone's Chief Financial Officer since April 2007. Prior to joining Theraclone, Mr. Hawkinson served as the Vice President, Finance and Accounting of Cell Therapeutics, Inc. from September 2005 to April 2007 and the Vice President, Finance of Corixa Corporation from November 1999 to July 2005. Prior to Corixa Corporation, Mr. Hawkinson served as an Audit Senior Manager at Ernst & Young LLP. Mr. Hawkinson holds a B.A. in accounting from the University of Washington.

**Jordan P. Karp, Esq.** Mr. Karp has been PharmAthene's Senior Vice President and General Counsel since June 2008 and in January 2012 assumed responsibility for corporate development. In September 2008, he was appointed corporate secretary. From November 2007 until Mr. Karp joined PharmAthene, he worked as an attorney in private practice. Mr. Karp was employed by Constellation Energy Group, Inc., a diversified energy company, from October 2001 to November 2007. Mr. Karp served as Vice President & General Counsel for one of Constellation Energy's operating divisions, Constellation NewEnergy, Inc., a retail marketer of electricity and natural gas, from October 2002 until November 2007. Prior to joining Constellation Energy, Mr. Karp held in-house legal positions of increasing responsibility at MCI Communications Corp., Guilford Pharmaceuticals Inc., and Mentor Technologies Group, Inc., where Mr. Karp served as Vice President, General Counsel & Corporate Secretary from November 1999 through June 2001. Mr. Karp holds a B.A. in Natural Sciences from The Johns Hopkins University and a J.D. from Yale Law School.

**Eleanor Ramos, M.D.** Dr. Ramos has served as Theraclone's Chief Medical Officer since July 2011. Prior to joining Theraclone, Dr. Ramos served as the Senior Vice President, Chief Medical Offer of ZymoGenetics, Inc. from 2009 to 2011 and as its Vice President, Clinical Development from 2007 to 2009. She also previously held senior positions at Bristol-Myers Squibb Company, the Immune Tolerance Network at the University of California, San Francisco and Roche Global Development. Dr. Ramos holds a B.S. summa cum laude in chemistry from Tufts University and an M.D. with Alpha Omega Alpha distinction from Tufts Medical School.

**Kristine Swiderek, Ph.D.** Dr. Swiderek has served as Theraclone's Chief Scientific Officer since December 2011, previously serving as its Vice President, Research from January 2011 to December 2011. Prior to joining Theraclone, Dr. Swiderek served at Zymogenetics, Inc., a public biotechnology company specializing in development of protein therapeutics, from 1997 to 2010, including as the Vice President of Protein Science from 2008 to 2010. Prior to ZymoGenetics, Inc., Dr. Swiderek established an analytical core facility at the City of Hope, National Cancer Center. Dr. Swiderek holds a Diploma Thesis in protein biochemistry and a Ph.D. in protein biochemistry and analytical science from the Ruhr-Universität in Bochum, Germany.

**Non-Employee Directors**

**Mitchel B. Sayare, Ph.D.** Dr. Sayare has been a member of the PharmAthene Board of Directors since April 2010 and was appointed Chairman of the Board in July 2011. Until 2010, Dr. Sayare served as the Chairman of the Board of public company ImmunoGen, Inc. (a position he had held since 1989). In addition, he served as ImmunoGen's Chief Executive Officer from 1986 to December 31, 2008, and President from 1986 to 1992 and 1994 to July 2008. Prior to joining ImmunoGen, he served as Vice President of Development of Xenogen from 1982 to 1985. Prior to that he was Assistant Professor of Biophysics and Biochemistry at the University of Connecticut. Dr. Sayare holds a Ph.D. in Biochemistry from Temple University School of Medicine. Dr. Sayare is a director of Cymogen Dx, Inc. and Isabella Products, Inc., both

privately-held companies. Dr. Sayare brings to the combined company's board substantial board and executive experience in biotechnology companies.

**John M. Gill.** Mr. Gill has served as a member of the PharmAthene Board of Directors since August 3, 2007 and from February 2004 to August 3, 2007 served as a member of the Board of Directors and as Chairman of the Audit Committee of former PharmAthene. Mr. Gill is currently the President, Chief Executive Officer and a Director of TetraLogic Pharmaceuticals Corporation, a private biopharmaceutical company, and has served in these positions since 2003. He is also an advisor or director of other private companies, the Kimmel Cancer Center at Thomas Jefferson University, and other non-profit community organizations. Mr. Gill has previously held positions at 3-Dimensional Pharmaceuticals and SmithKline Beecham. Mr. Gill received a B.A. degree from Rutgers University. Mr. Gill brings to the combined company's board substantial executive and board experience in the pharmaceutical industry and significant financial knowledge and expertise.

**Steven Gillis, Ph.D.** Dr. Gillis has served as the chairman of Theraclone's board of directors since February 2006 and Theraclone's acting Chief Executive Officer from June 2010 to December 2011. Since 2005, Dr. Gillis has been a managing director at ARCH Venture Partners, a venture capital firm. From 1994 to 2005, Dr. Gillis served as the Chief Executive Officer and Chairman of the board of directors of Corixa Corporation, which he co-founded in October 1994. Dr. Gillis currently serves as a member of the boards of directors of bluebird bio, Inc, as well as many privately-held companies and previously served as a member of the board of directors of Trubion Pharmaceuticals, Inc. from 2006 until it was acquired in 2010. Dr. Gillis holds a B.A. in biology and English from Williams College and a Ph.D. in biological science from Dartmouth College. Dr. Gillis brings to the combined company's board of directors extensive experience in the venture capital industry, particularly with biotech and pharmaceutical companies and in biologistic therapies.

**Wende S. Hutton.** Ms. Hutton has served as a member of Theraclone's board of directors since March 2007. Since May 2007, she has served as a General Partner of Canaan Partners, a global venture capital firm. From July 2004 until May 2007, she served in various capacities at Canaan Partners including Venture Partner and Partner. Ms. Hutton currently serves as a member of the boards of directors of Chimerix, Inc., as well as several privately-held companies. Ms. Hutton holds an A.B. in human biology from Stanford University and an MBA from Harvard Business School, where she was a Baker Scholar. Ms. Hutton brings to the combined company's board of directors expertise in marketing and finance from across the life sciences spectrum, as well as experience facilitating the development and market entrance of several new drugs and medical devices.

**Steven P. James.** Mr. James has been nominated to serve as a member of the combined company's board of directors. Since November 2012, he has served as the President, Chief Executive Officer and a member of the board of directors of Labrys Biologics, Inc., a private biotechnology company. Prior to Labrys Biologics, Inc., he served as the Chief Executive Officer of KAI Pharmaceuticals, Inc., a private biotechnology company, from September 2004 until its acquisition by Amgen Inc. in July 2012. Mr. James holds an A.B. in biology from Brown University and an MBA in marketing from the Kellogg School of Northwestern University. Mr. James brings to the combined company's board of directors extensive experience in the biotechnology industry, including financing transactions and the development and marketing of drug candidates.

**Brian A. Markison.** Mr. Markison has been a member of the PharmAthene Board of Directors since September 2011. He is a healthcare industry advisor to private equity firm, Austin Capital Partners, Inc. He was President and Chief Executive Officer, and member of the board of directors, of Fougera Pharmaceuticals, Inc. from 2011 to 2012. Mr. Markison has more than 30 years of experience in the pharmaceutical industry. He formerly served as Chairman (from May 2007 through February 2011) and President and Chief Executive Officer (from July 2004 through February 2011) of King Pharmaceuticals, which he joined as Chief Operating Officer before being promoted to President and Chief Executive Officer and elected Chairman. Prior to King Pharmaceuticals, Mr. Markison held various senior leadership positions at Bristol-Myers Squibb, including President of Oncology/Virology and Oncology Therapeutics Network; President, Neuroscience/Infectious Disease and Dermatology; and Senior Vice President, Operational Excellence and Productivity. Mr. Markison serves on the board of directors of public companies Alere, Inc., Immunomedics, Inc., and Rosetta Genomics, Ltd., where he also serves as board Chairman. He also serves on the board of directors for the Komen Foundation for South/

Central New Jersey and on the board of trustees for the Pennington School. Mr. Markison received a B.S. degree from Iona College. Mr. Markison brings to the combined company's board substantial experience in public healthcare companies and broad industry knowledge in the healthcare industry.

**Eric I. Richman.** Mr. Richman was appointed PharmAthene's President and Chief Operating Officer on March 25, 2010, interim Chief Executive Officer on May 2, 2010 and Chief Executive Officer on October 20, 2010. He became a Director of PharmAthene on May 17, 2010. Prior to his March 25, 2010 appointment, Mr. Richman was PharmAthene's Senior Vice President, Business Development and Strategic Planning since PharmAthene's merger on August 3, 2007, and from August 2003 through August 3, 2007 held the same position with former PharmAthene. Prior to joining PharmAthene, Mr. Richman held various commercial and strategic positions of increasing responsibility over a 12 year period at MedImmune, Inc. from its inception and was Director, International Commercialization of MedImmune. Mr. Richman previously served as Director of Lev Pharmaceuticals (until its acquisition by ViroPharma Incorporated in 2008) and American Bank and currently serves as director of ADMA Biologics, Inc. Mr. Richman received a B.S. in biomedical science from the Sophie Davis School of Biomedical Education and an MBA from the American Graduate School of International Management. As PharmAthene's current Chief Executive Officer, Mr. Richman brings to the combined company's board critical insights into PharmAthene's day-to-day operations.

**Derace L. Schaffer, M.D.** Dr. Schaffer previously served as Vice Chairman and Chief Executive Officer of PharmAthene from April 2005 to August 3, 2007. Dr. Schaffer is the founder and Chief Executive Officer of The Lan Group, a venture capital firm specializing in healthcare and high technology investments. He has served as chairman of several healthcare companies, including Radiologix, Inc. when it was private, and he has been an active investor for approximately twenty years of a variety of healthcare companies. Dr. Schaffer is the founder of Radiologix. Dr. Schaffer served as Chief Executive Officer and chairman of the board of Ide Imaging Group, P.C. from 1980 to 2001. Dr. Schaffer has served as a director on many healthcare boards of directors, including several health systems and more than ten healthcare services and technology companies. Dr. Schaffer received his postgraduate radiology training at Harvard Medical School and Massachusetts General Hospital, where he served as Chief Resident. He also serves as a director of American CareSource Holdings, Inc., Archermobile, Inc. and Radiologix and has previously served as director of King Pharmaceuticals, Inc. and Allion Healthcare, Inc. Dr. Schaffer is a member of Alpha Omega Alpha, the national medical honor society. Dr. Schaffer brings to the combined company's board substantial experience as an executive, board member and investor in the healthcare and technologies and his practical experience in the medical field.

**Key Employee**

**Wayne Morges, Ph.D.** Dr. Morges has been PharmAthene's Vice President, Regulatory Affairs and Quality since the merger on August 3, 2007, and from January 2005 through August 3, 2007 held the same position with former PharmAthene. Prior to that, Dr. Morges was the Vice President of Global Regulatory Affairs, Vaccines for Baxter Healthcare Corporation from June 2000 to November 2004. Previously, Dr. Morges worked at Merck & Co, Inc., or Merck, holding various positions of increasing responsibility in Merck's vaccine division, including heading Quality & Regulatory Affairs for licensed biologicals. Dr. Morges holds a Ph.D. in Microbiology and Immunology from Hahnemann University and B.S. and M.S. degrees from Penn State University.

## PRINCIPAL STOCKHOLDERS OF PHARMATHENE

The following table sets forth information, as it was available to PharmAthene on October 4, 2013, based on information furnished by the persons named below, obtained from PharmAthene's transfer agent or obtained from certain beneficial ownership filings made by the persons named below with the SEC, with respect to the beneficial ownership of shares of PharmAthene's common stock by (i) each person known by PharmAthene to be the beneficial owner of more than 5% of its outstanding shares of common stock (inclusion in this table shall not be deemed an admission of affiliate status), (ii) each director and Named Executive Officer of PharmAthene and (iii) all directors and executive officers of PharmAthene as a group. Except as indicated in the footnotes to the table, the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

| Name of Beneficial Owner[1] | Number of Shares Beneficially Owned | Percentage of Outstanding Shares[2] |
|---|---|---|
| Funds Affiliated with MPM Bioventures III, L.P.[3] | 7,168,930 | 13.49% |
| Prescott Group Capital Management, L.L.C.[4] | 5,244,835 | 10.03% |
| Steven St. Peter, M.D.[5]** | 20,000 | * |
| John M. Gill[6]** | 152,759 | * |
| Joel McCleary[7]** | 286,904 | * |
| Derace L. Schaffer, M.D.[8]** | 1,261,043 | 2.40% |
| Eric I. Richman[9]** | 1,160,683 | 2.18% |
| Jeffrey W. Runge, M.D.[10]** | 117,700 | * |
| Mitchel Sayare, Ph.D.[11]** | 184,104 | * |
| Brian A. Markison**[12] | 40,000 | * |
| Linda L. Chang[13] | 143,750 | * |
| Jordan P. Karp, Esq.[14] | 427,371 | * |
| Francesca Cook[15] | 405,843 | * |
| Thomas R. Fuerst, Ph.D.[16] | 44,545 | * |
| All directors and executive officers as a group (11 persons) | 4,200,157 | 7.63% |

* Less than 1.0%

** Director

(1) Unless otherwise indicated in other footnotes, the address for each beneficial owner is c/o PharmAthene, Inc., One Park Place, Annapolis, MD 21401.

(2) Based on 52,310,913 shares of PharmAthene common stock as of October 4, 2013. Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of common stock underlying warrants, notes or subject to options held by that person that are currently exercisable or exercisable within 60 days are deemed outstanding. Such shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. Except as indicated in the following footnotes or pursuant to applicable community property laws, each stockholder named in the table has sole voting and investment power with respect to the shares set forth opposite such stockholder's name.

(3) Includes 729,108 shares issuable upon exercise of warrants. As disclosed in their Schedule 13D/A filed on December 27, 2010, the amounts included in the table are directly owned by MPM BioVentures III, L.P. or BV III, MPM BioVentures III-QP, L.P., or BV III QP, MPM BioVentures III GmbH & Co. Beteiligungs KG, or BV III KG, MPM BioVentures III Parallel Fund, L.P., or BV III PF, and MPM Asset Management Investors 2004 BVIII LLC, or AM LLC. MPM BioVentures III GP, L.P., or BV III GP, and MPM BioVentures III LLC, or BV III LLC, are the direct and indirect general partners of BV III, BV III QP, BV III KG and BV III PF, collectively with AM LLC, BV III GP and BV III LLC, the MPM Funds. The members of BV III LLC and AM LLC are Luke Evnin, Ansbert Gadicke, Nicholas Galakatos, Dennis Henner, Nicholas Simon III, Michael Steinmetz and Kurt Wheeler, who disclaim beneficial ownership of these shares except to the extent of their proportionate pecuniary interest therein. Dr. Steven

St. Peter, a member of PharmAthene's Board of Directors, was affiliated with the MPM Funds through April 2012, but was not a member of the general partners and thus is not deemed to have beneficial ownership of the shares owned by the MPM Funds. The amount for the MPM Funds in the table above includes options to purchase 91,104 shares granted to Dr. St. Peter and subsequently assigned to MPM Funds and options to purchase 1,104 shares held directly by Ansbert Gadicke. The address for the MPM Funds is The John Hancock Tower, 200 Clarendon Street, 54th floor, Boston, MA, 02116.

(4) Based on a Schedule 13D filed on September 26, 2013, and amended on October 10, 2013 by Prescott Group Capital Management, L.L.C., or Prescott, and certain entities affiliated or associated with Prescott ("The Prescott Report"), reflecting shared voting and dispositive power with respect to the 5,244,835 shares beneficially owned by the Reporting Persons as of such date.

(5) Does not include options to purchase 20,000 shares of PharmAthene common stock that are not exercisable and will not be exercisable within 60 days of the date of this table. Furthermore, does not include options to purchase 91,104 shares of common stock that have been assigned to the MPM Funds. Dr. St. Peter is a member of PharmAthene's Board of Directors. Dr. St. Peter was affiliated with the MPM Funds through April 2012 as discussed in footnote (3) above, but was not a member of the general partners and thus is not deemed to have beneficial ownership of the shares owned by the MPM Funds.

(6) Consists of options to purchase 152,759 shares of PharmAthene common stock (representing the portion of options to purchase a total of 172,759 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Mr. Gill is a member of PharmAthene's Board of Directors.

(7) Includes options to purchase 161,104 shares of PharmAthene common stock (representing the portion of options to purchase a total of 181,104 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof) and 5,633 shares issuable upon exercise of warrants. Mr. McCleary is a member of PharmAthene's Board of Directors.

(8) Includes options to purchase 110,000 shares of common stock (representing the portion of options to purchase a total of 130,000 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof) and 133,333 shares issuable upon exercise of warrants. Dr. Schaffer is a member of PharmAthene's Board of Directors. Of the shares beneficially owned by Dr. Schaffer, 123,929 shares, and 80,000 shares issuable upon exercise of warrants, are held in Dr. Schaffer's IRA.

(9) Includes 159,516 restricted shares granted and not relinquished for tax purposes (included herein irrespective of vesting date), options to purchase a total of 971,667 shares of common stock (representing the portion of options to purchase a total of 1,434,167 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof) and 2,194 shares issuable upon exercise of warrants. On March 25, 2010, Mr. Richman was appointed PharmAthene's President, on May 2, 2010 PharmAthene's interim Chief Executive Officer and on October 20, 2010 PharmAthene's Chief Executive Officer. Mr. Richman was appointed to PharmAthene's Board of Directors in May 2010.

(10) Includes options to purchase a total of 80,000 shares of common stock (representing the portion of options to purchase a total of 100,000 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Dr. Runge is a member of PharmAthene's Board of Directors.

(11) Includes options to purchase a total of 179,104 shares of common stock (representing the portion of options to purchase a total of 212,139 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Dr. Sayare is a member of PharmAthene's Board of Directors and became its Chairman in July 2011.

(12) Includes options to purchase a total of 40,000 shares of common stock (representing the portion of options to purchase a total of 60,000 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Mr. Markison became a member of PharmAthene's Board of Directors in September 2011.

(13) Includes 20,000 restricted shares granted and not relinquished for tax purposes (included herein irrespective of vesting date), options to purchase a total of 113,750 shares of common stock (representing the portion of options to purchase a total of 245,000 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Linda L. Chang is PharmAthene's Chief Financial Officer.

(14) Includes 21,929 restricted shares granted and not relinquished for tax purposes (included herein irrespective of vesting date), options to purchase 395,442 shares of common stock (representing the

portion of options to purchase a total of 531,692 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Mr. Karp is PharmAthene's General Counsel.

(15) Includes 33,604 restricted shares granted and not relinquished for tax purposes (included herein irrespective of vesting date), options to purchase 366,717 shares of common stock (representing the portion of options to purchase a total of 509,217 shares of common stock that was exercisable as of the date of this table or will become exercisable within 60 days thereof). Ms. Cook is PharmAthene's Senior Vice President, Policy and Government Affairs.

(16) Includes 44,545 shares of common stock based on information from the Company's proxy statement filed in connection with its 2012 annual meeting and Dr. Fuerst's exercise of stock options in March 2013. Dr. Fuerst resigned on October 19, 2012 as PharmAthene's Chief Scientific Officer.

## PRINCIPAL STOCKHOLDERS OF THERACLONE

The following table sets forth certain information regarding the beneficial ownership of Theraclone's capital stock as of October 4, 2013, by (i) each person known to Theraclone to be a beneficial owner of more than 5% of its capital stock, (ii) each Theraclone director, (iii) each Theraclone executive officer and (iv) all directors and executive officers as a group.

Unless indicated otherwise below, the address of each officer or director listed below is c/o Theraclone Sciences, Inc., 1124 Columbia Street, Suite 300, Seattle, Washington 98104. Except as otherwise indicated below, Theraclone believes that the beneficial owners of the common stock listed below have sole investment and voting power with respect to the shares.

| Beneficial Owner | Number of Shares Beneficially Owned[1] | Percentage of Shares Beneficially Owned[2] |
|---|---|---|
| **5% Stockholders** | | |
| Entities affiliated with ARCH Venture Partners[3] | 11,785,214 | 28.8% |
| Canaan VII L.P.[4] | 9,925,897 | 24.3% |
| Healthcare Ventures VIII, L.P.[5] | 6,192,071 | 15.2% |
| Entities affiliated with MPM Capital[6] | 5,636,887 | 14.1% |
| **Named Executive Officers and Directors** | | |
| Clifford J. Stocks[7] | 929,774 | 2.1% |
| Russ Hawkinson[7] | 477,538 | 1.2% |
| Eleanor Ramos[7] | 260,559 | * |
| Kristine Swiderek[7] | 248,438 | * |
| Steven Gillis, Ph.D.[8] | 13,058,304 | 31.0% |
| Wende S. Hutton[9] | 9,989,942 | 24.4% |
| Christopher Mirabelli, Ph.D.[5] | 6,192,071 | 15.2% |
| Wendye Robbins, M.D.[7] | 35,558 | * |
| All Directors and Executive Officers as a Group (8 individuals)[10] | 31,192,184 | 67.3% |

* Less than 1% of the outstanding shares.

(1) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of capital stock owned as of October 4, 2013 and shares of capital stock that are issuable within 60 days of October 4, 2013, including pursuant to options or warrants to purchase capital stock, are deemed beneficially owned for computing the percentage of the holder holding such securities, but are not considered outstanding for purposes of computing the percentage of any other holder.

(2) Based on 39,708,753 shares of common stock, assuming the conversion of all outstanding shares of preferred stock into 37,373,601 shares of common stock, outstanding as of October 4, 2013.

(3) Represents 70,085 shares of capital stock and warrants to purchase 8,602 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by ARCH V Entrepreneurs Fund, L.P. and 10,429,872 shares of capital stock and warrants to purchase 1,276,655 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by ARCH Venture Fund V, L.P. ARCH Venture Partners V, LLC is the sole general partner of ARCH Venture Partners V, L.P., which is the sole general partner of ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. The managing directors of ARCH Venture Partners V, LLC are Keith Crandell, Clinton Bybee and Robert Nelsen. ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. are affiliated funds of ARCH Venture Partners. Steven Gillis, Ph. D., is a managing director of ARCH Venture Partners and owns an interest in ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. Dr. Gillis does not have voting or disposition power over the shares held by ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. The address for the ARCH entities is 8725 W. Higgins Road, Suite 290, Chicago, Illinois 60631.

(4) Represents 8,698,945 shares of capital stock and warrants to purchase 1,226,952 shares of capital stock that are exercisable within 60 days of October 4, 2013 by Canaan VII L.P., Canaan Partners VII LLC is

the general partner of Canaan VII L.P. The managers of Canaan Partners VII LLC are Brenton K. Ahrens, John V. Balen, Stephen Bloch, Wende S. Hutton, who is a member of Theraclone's Board of Directors, Maha Ibrahim, Deepak Kamra, Gregory Kopchinsky, Seth A. Rudnick, Guy M. Russo and Eric A. Young. The address for Canaan VII L.P. is 2765 Sand Hill Road, Menlo Park, California 94025.

(5) Represents 5,241,580 shares of capital stock and warrants to purchase 950,491 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by HealthCare Ventures VIII, L.P., HealthCare Partners VIII LLC is the general partner of HealthCare Partners VIII, L.P., which is the general partner of HealthCare Ventures VIII, L.P. The managing members of HealthCare Partners VIII, LLC are James Cavanaugh, Augustine Lawlor, John Littlechild, Christopher Mirabelli who is a member of Theraclone's board of directors, and Harold Werner. The address for HealthCare Ventures VIII, L.P. is 47 Thorndike Street, Suite B1-1, Cambridge, Massachusetts 02141.

(6) Represents 84,399 shares of capital stock and warrants to purchase 6,447 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by MPM Asset Management Investors 2003 BVIII LLC; 293,109 shares of capital stock and warrants to purchase 22,388 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by MPM BioVentures III, L.P.; 368,413 shares of capital stock and warrants to purchase 28,140 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by MPM BioVentures III GmbH & Co. Beteiligungs KG; 131,653 shares of capital stock and warrants to purchase 10,056 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by MPM BioVentures III Parallel Fund, L.P.; and 4,359,313 shares of capital stock and warrants to purchase 332,969 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by MPM BioVentures III-QP, L.P., MPM BioVentures III GP, L.P. is the general partner of MPM BioVentures III LLC, which is the general partner of MPM BioVentures III, L.P., MPM BioVentures III GmbH & Co. Beteiligungs KG, MPM BioVentures III Parallel Fund, L.P. and MPM BioVentures III-QP, L.P. Ansbert Gadicke, Luke Evnin, Nicholas Galakatos, Dennis Henner, Nicholas Simon, Michael Steinmetz and Kurt Wheeler share voting and dispositive power over the shares held by such entities. The address for the MPM entities is 200 Clarendon Street, 54$^{th}$ Floor, Boston, Massachusetts 02116.

(7) Represents shares of common stock issuable pursuant to options that are exercisable within 60 days of October 4, 2013.

(8) Represents (i) 58,090 shares of capital stock and 1,215,000 shares of common stock issuable pursuant to options that are exercisable within 60 days of October 4, 2013 held by Dr. Gillis and (ii) 70,085 shares of capital stock and warrants to purchase 8,602 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by ARCH V Entrepreneurs Fund, L.P. and 10,429,872 shares of capital stock and warrants to purchase 1,276,655 shares of capital stock that are exercisable within 60 days of October 4, 2013 held by ARCH Venture Fund V, L.P. ARCH Venture Partners V, LLC is the sole general partner of ARCH Venture Partners V, L.P., which is the sole general partner of ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. The managing directors of ARCH Venture Partners V, LLC are Keith Crandell, Clinton Bybee and Robert Nelsen. ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. are affiliated funds of ARCH Venture Partners. Steven Gillis, Ph. D., is a managing director of ARCH Venture Partners and owns an interest in ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. Dr. Gillis does not have voting or disposition power over the shares held by ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P.

(9) Represents (i) 54,054 shares of capital stock held by Hutton Living Trust Dated 12/10/96, of which Wende S. Hutton is a trustee and shares voting and dispositive power over, and (ii) 8,698,945 shares of capital stock and warrants to purchase 1,226,952 shares of capital stock that are exercisable within 60 days of October 4, 2013 by Canaan VII L.P. Canaan Partners VII LLC is the general partner of Canaan VII L.P. Wende S. Hutton, who is a member of Theraclone's Board of Directors, is a manager of Canaan Partners VII LLC.

(10) Includes the following securities, which are exercisable or convertible into shares of Theraclone's securities within 60 days of October 4, 2013: (a) 3,156,867 shares issuable pursuant to exercisable options and (b) 3,472,700 shares issuable pursuant to exercisable warrants.

## PRINCIPAL STOCKHOLDERS OF THE COMBINED COMPANY

The following table sets forth information, as it was available to PharmAthene and Theraclone on October 4, 2013, with respect to the post-merger beneficial ownership of shares of common stock of the combined company, assuming the merger had been completed on October 4, 2013, by (i) each person known by PharmAthene and Theraclone to be the beneficial owner of more than 5% of the shares of common stock of the combined company, (ii) each director and executive officer of the combined company, and (iii) all directors and executive officers of the combined company as a group. Except as indicated in the footnotes to the table, the persons listed below have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

| Name of Beneficial Owner[1] | Number of Shares Beneficially Owned | Percentage of Outstanding Shares[2] |
|---|---|---|
| **5% Stockholders** | | |
| Entities affiliated with MPM Capital[3] | 13,461,856 | 13.7% |
| Entities affiliated with Arch Venture Partners[4] | 13,156,816 | 13.4% |
| Canaan VII L.P.[5] | 11,081,106 | 11.3% |
| Healthcare Ventures VIII, L.P.[6] | 6,912,725 | 7.1% |
| Prescott Group Capital Management, L.L.C.[7] | 5,244,835 | 5.4% |
| **Executive Officers and Directors** | | |
| Clifford J. Stocks[8]** | 1,037,984 | 1.0% |
| Russ Hawkinson[8] | 533,115 | * |
| Francesca Cook[9] | 405,843 | * |
| Jordan P. Karp Esq.[10] | 427,371 | * |
| Eleanor Ramos[8] | 290,884 | * |
| Kristine Swiderek[8] | 277,352 | * |
| Mitchel B. Sayare, Ph.D.[11]** | 184,104 | * |
| Steven Gillis, Ph.D.[12]** | 14,578,072 | 14.7% |
| John M. Gill[13]** | 152,759 | * |
| Wende S. Hutton[14]** | 11,152,604 | 11.4% |
| Steven P. James** | — | — |
| Brian M. Markison[15]** | 40,000 | * |
| Eric I. Richman[16]** | 1,623,183 | 1.7% |
| Derace L. Schaffer, M.D.[17]** | 1,261,043 | 1.3% |
| **All directors and executive officers as a group (14 persons)[18]** | 31,964,314 | 30.2% |

* Less than 1.0%

** Director

(1) The address for each beneficial owner is as set forth for such person in the section entitled “Principal Stockholders of PharmAthene” and “Principal Stockholders of Theraclone.”

(2) Based on 96,641,101 shares of common stock of the combined company that would be outstanding as of October 4, 2013 assuming at an exchange ratio of 1.116 PharmAthene shares for one Theraclone share and assuming the merger had been completed as of such date. Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of common stock underlying warrants, or subject to options held by that person that are currently exercisable or exercisable within 60 days are deemed outstanding. Such shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. Except as indicated in the following footnotes or pursuant to applicable community property laws, each stockholder named in the table has sole voting and investment power with respect to the shares set forth opposite such stockholder’s name.

(3) See footnote (3) to the table in the section entitled “Principal Stockholders of PharmAthene” and footnote (6) to the table in the section entitled ”Principal Stockholders of Theraclone”.

(4) See footnote (3) to the table in the section entitled “Principal Stockholders of Theraclone”.

(5) See footnote (4) to the table in the section entitled “Principal Stockholders of Theraclone”.

(6) See footnote (5) to the table in the section entitled “Principal Stockholders of Theraclone”.

(7) See footnote (4) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(8) See footnote (7) to the table in the section entitled “Principal Stockholders of Theraclone”.

(9) See footnote (15) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(10) See footnote (14) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(11) See footnote (11) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(12) See footnote (8) to the table in the section entitled “Principal Stockholders of Theraclone”.

(13) See footnote (6) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(14) See footnote (9) to the table in the section entitled “Principal Stockholders of Theraclone”.

(15) See footnote (12) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(16) See footnote (9) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(17) See footnote (8) to the table in the section entitled “Principal Stockholders of PharmAthene”.

(18) See footnote (10) to the table in the section entitled “Principal Stockholders of Theraclone”.

## RELATED PARTY TRANSACTIONS

### PharmAthene Transactions

Other than as disclosed pursuant to Item 402 of Regulation S-K in the sections "Management of the Combined Company" or as disclosed in the sections "Merger Agreement" or "Voting and Other Agreements," or in this section, no reportable transactions as described in Item 404(a) of Regulation S-K took place since January 1, 2010 with respect to PharmAthene's current directors, executive officers or persons who hold more than 5% of PharmAthene's common stock, or any immediate family member of or person sharing the household with any of these persons, the PharmAthene board designees, Jordan Karp or Francesca Cook.

In the fourth quarter of 2010, certain of PharmAthene's officers, directors and beneficial owners of more than five percent of PharmAthene's common stock converted, pursuant to an early conversion agreement, 10% convertible notes that PharmAthene had issued to them in July 2009, or the Notes. In exchange for the holders' election to convert the Notes prior to their July 2011 maturity, in addition to receiving shares of PharmAthene's common stock as a result of the conversion, the holders received cash payments corresponding to the interest foregone, i.e., the interest such holders would have received between the conversion date and the maturity date had they held the Notes through maturity. As of December 29, 2010, all remaining holders of these Notes, including PharmAthene affiliates, had converted their Notes, while one holder elected to have his Notes redeemed for cash. The following table summarizes the amount of Notes converted, interest accrued thereon and number of shares of PharmAthene common stock and amount of cash payments received by each of PharmAthene's directors, executive officers and beneficial owners of more than five percent of PharmAthene's common stock at the time of conversion.

| Converting Noteholder* | Relationship at Time of Conversion | Principal Amount Converted** | Interest Accrued since July 28, 2009 | Total Amount Converted (principal plus accrued interest) | Number of Shares Received | Cash Received |
|---|---|---|---|---|---|---|
| MPM Funds | 5%+ stockholder, affiliated with Director | $ 5,468,315 | 703,286 | 6,171,601 | 2,428,171 | 405,567 |
| Derace L. Schaffer, M.D. | Director | $ 1,000,000 | 128,611 | 1,128,611 | 444,043 | 74,167 |
| Joel McCleary | Director | $ 42,242 | 5,433 | 47,675 | 18,757 | 3,133 |
| Eric I. Richman | President and Chief Executive Officer | $ 16,454 | 2,116 | 18,570 | 7,306 | 1,220 |
| Baker Bros. | 5%+ stockholder | $ 7,000,000 | 964,445 | 7,964,444 | 3,133,551 | 207,667 |
| Healthcare Ventures VII, L.P. | 5%+ stockholder, affiliated with Director | $ 2,107,483 | 271,045 | 2,378,528 | 935,814 | 156,305 |

* This table does not include reference to a Note in the principal amount plus accrued interest of $1,128,611, which had been held by the wife of John Pappajohn, PharmAthene's Chairman until July 2011. Mrs. Pappajohn had converted such Note into 444,044 shares of common stock and received $74,167 in cash.

** Except for Baker Bros., represents the largest aggregate amount of indebtedness outstanding vis-à-vis this creditor since the Notes were issued. For Baker Bros., the largest aggregate amount of indebtedness outstanding was $7,900,278.

There are no familial relationships among the individuals expected to serve as directors or executive officers of the combined company.

### Theraclone Transactions

In addition to the compensation arrangements described in the sections entitled "THE MERGER — Interests of Theraclone's Directors and Officers in the Merger" and "EXECUTIVE OFFICER AND DIRECTOR COMPENSATION — Theraclone's Executive Compensation" and "EXECUTIVE OFFICER AND DIRECTOR COMPENSATION — Theraclone's Director Compensation," the following is a description of each transaction since January 1, 2010 and each currently proposed transaction in which:

- Theraclone has been or is to be a participant;
- the amount involved exceeds $120,000; and

- any of Theraclone's directors, executive officers or holders of more than 5% of its capital stock, or any immediate family member of or person sharing the household with any of these persons, had or will have a direct or indirect material interest.

**Series B Convertible Preferred Stock Financing**

In separate closings occurring from March 2010 through November 2011, Theraclone sold an aggregate of 8,723,069 shares of its Series B convertible preferred stock at a purchase price of $1.50 per share for an aggregate purchase price of approximately $13.1 million. In March 2013, Theraclone's outstanding Series B convertible preferred stock converted to Series B-1 convertible preferred stock.

The following table summarizes the Series B convertible preferred stock purchased by Theraclone's current directors, executive officers, persons who hold more than 5% of Theraclone's outstanding capital stock or any member of the immediate family of any of the foregoing persons.

| Name of Stockholder | Shares of Series B Convertible Preferred Stock | Total Purchase Price |
|---|---|---|
| Canaan VII L.P.(1) | 2,333,333 | $ 3,500,000 |
| Entities affiliated with MPM Capital | 1,906,397 | 2,859,596 |
| Entities affiliated with ARCH Venture Partners(2) | 1,578,934 | 2,368,401 |
| Healthcare Ventures VIII, L.P.(3) | 166,666 | 250,000 |

(1) Wende S. Hutton, a member of Theraclone's Board of Directors, is a general partner of Canaan Partners and, therefore, may be deemed to beneficially own these shares.

(2) Steven Gillis, Ph.D., a member of Theraclone's Board of Directors, is a managing director of ARCH Venture Partners and, therefore, may be deemed to beneficially own these shares.

(3) Christopher Mirabelli, Ph.D., a member of Theraclone's Board of Directors, is a managing director of Healthcare Ventures and, therefore, may be deemed to beneficially own these shares.

**Series B-1 Convertible Preferred Stock Financing**

In March 2013 and August 2013, Theraclone sold units consisting of an aggregate of 5,333,334 shares of its Series B-1 convertible preferred stock and warrants to purchase up to an aggregate of 539,367 shares of Series B-1 Preferred Stock, at a purchase price of $1.50 per unit, for an aggregate purchase price of $8.0 million.

The following table summarizes the Series B-1 convertible preferred stock and warrants to purchase Series B-1 convertible preferred stock purchased by Theraclone's current directors, executive officers, persons who hold more than 5% of Theraclone's outstanding capital stock or any member of the immediate family of any of the foregoing persons.

| Name of Stockholder | Shares of Series B-1 Convertible Preferred Stock | Warrants to Purchase Shares of Series B-1 Convertible Preferred Stock | Total Purchase Price |
|---|---|---|---|
| Canaan VII L.P.(1) | 1,415,612 | 236,952 | $ 2,123,418 |
| Entities affiliated with ARCH Venture Partners(2) | 1,704,157 | 285,257 | 2,556,686 |
| Healthcare Ventures VIII, L.P.(3) | 408,247 | 17,158 | 612,371 |
| Entities affiliated with MPM Capital | 593,024 | — | 889,536 |
| Wende S. Hutton(4) | 8,090 | — | 12,135 |
| Steven Gillis, Ph.D. | 8,090 | — | 12,135 |

(1) Wende S. Hutton, a member of Theraclone's Board of Directors, is a general partner of Canaan Partners and, therefore, may be deemed to beneficially own these shares.

(2) Steven Gillis, Ph.D., a member of Theraclone's Board of Directors, is a managing director of ARCH Venture Partners and, therefore, may be deemed to beneficially own these shares.

(3) Christopher Mirabelli, Ph.D., a member of Theraclone's Board of Directors, is managing director of Healthcare Ventures and, therefore, may be deemed to beneficially own these shares.

(4) Held by HUTTON LIVING TRUST dated 12/10/96, for which Wende S. Hutton, a member of Theraclone's Board of Directors, serves as trustee.

## CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER

The following discussion summarizes certain material U.S. federal income tax consequences of the merger. This summary is based upon current provisions of the Code, existing Treasury Regulations promulgated thereunder and current administrative rulings and court decisions, all of which are subject to change and to differing interpretations, possibly with retroactive effect. Any change could alter the tax consequences to PharmAthene, Theraclone or Theraclone stockholders, as described in this summary. This summary is not binding on the IRS, and there can be no assurance that the IRS (or a court, in the event of an IRS challenge) will agree with the conclusions stated herein.

This discussion does not address all of the U.S. federal income tax consequences of the merger that may be relevant to Theraclone stockholders and PharmAthene stockholders in light of their particular circumstances and does not apply to stockholders that are subject to special treatment under U.S. federal income tax laws, including, without limitation:

- dealers, brokers and traders in currencies or securities;
- individuals who are not citizens or residents of the United States, including U.S. expatriates;
- corporations (or other entities treated as a corporation for U.S. federal income tax purposes) created or organized outside of the United States;
- tax-exempt entities;
- financial institutions, regulated investment companies, real estate investment trusts or insurance companies;
- partnerships, limited liability companies that are not treated as corporations for U.S. federal income tax purposes, subchapter S corporations and other pass-through entities and investors in such entities;
- an estate or trust;
- holders who are subject to the alternative minimum tax provisions of the Code;
- holders who acquired their shares in connection with stock option or stock purchase plans or in other compensatory transactions;
- holders who hold their shares through a pension plan or other qualified retirement plan;
- holders who hold their shares as part of an integrated investment such as a hedge or as part of a hedging, straddle or other risk reduction strategy;
- holders who do not hold their shares as capital assets within the meaning of Section 1221 of the Code (generally, property held for investment will be a capital asset); or
- holders who have a functional currency other than the U.S. dollar.

In addition, the following discussion does not address:

- the tax consequences of the merger under any U.S. federal non-income tax laws or under state, local or non-U.S. tax laws;
- the tax consequences of transactions effectuated before, after or at the same time as the merger, whether or not they are in connection with the merger;
- the tax consequences of the exchange of any Theraclone capital stock that constitutes “Section 306 stock” within the meaning of Section 306 of the Code;
- the tax consequences of the receipt of shares of PharmAthene common stock other than in exchange for shares of Theraclone capital stock;
- the tax consequences of the ownership or disposition of shares of PharmAthene common stock acquired in the merger; and

- all of the tax implications of a failure of the merger to qualify as a "reorganization" within the meaning of Section 368(a) of the Code.

**Accordingly, Theraclone stockholders are advised and expected to consult their own tax advisors regarding the U.S. federal income tax consequences of the merger in light of their personal circumstances and the consequences of the merger under U.S. federal non-income tax laws and state, local and non-U.S. tax laws.**

***U.S. Federal Income Tax Consequences of the Merger***

The merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code. Each of Fenwick & West LLP, tax counsel to Theraclone, and Dentons US LLP, tax counsel to PharmAthene, have delivered an opinion to the effect that the merger will be treated for U.S. federal income tax purposes as a "reorganization" within the meaning of Section 368(a) of the Code. These opinions are based on certain assumptions and representations as to factual matters from Theraclone, PharmAthene and the Merger Sub, as well as certain covenants and undertakings by Theraclone, PharmAthene and the Merger Sub. Accordingly, subject to the limitations and qualifications set forth herein, the following are the anticipated material U.S. federal income tax consequences:

- PharmAthene and Theraclone stockholders generally will recognize no gain or loss solely as a result of the merger;
- Theraclone stockholders, other than Theraclone stockholders who exercise appraisal rights (as discussed below), generally will recognize no gain or loss upon the receipt of PharmAthene common stock for their Theraclone capital stock, other than with respect to cash received in lieu of fractional shares of PharmAthene common stock (as discussed below), imputed interest with respect to PharmAthene common stock distributed from Escrow to Theraclone stockholders (as described below), and gain or loss on PharmAthene (as discussed below);
- the aggregate tax basis of the shares of PharmAthene common stock that are received by a Theraclone stockholder in the merger will be equal to the aggregate tax basis of the shares of Theraclone capital stock surrendered in exchange therefor, reduced by any amount allocable to a fractional share of PharmAthene common stock for which cash is received;
- the holding period of the shares of PharmAthene common stock received by a Theraclone stockholder in connection with the merger will include the holding period of the shares of Theraclone capital stock surrendered in exchange therefor; and
- a Theraclone stockholder who receives cash instead of a fractional share of PharmAthene common stock generally will recognize a capital gain or loss in an amount equal to the difference, if any, between such stockholder's basis in the fractional share and the amount of cash received.

There will be no material U.S. federal income tax consequences of the merger for PharmAthene stockholders whether or not the merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code. If any of the representations or assumptions on which the Opinion of Dentons US LLP regarding tax matters and the Opinion of Fenwick & West LLP regarding tax matters are based proves to be incorrect, the federal income tax consequences of the merger may be adversely affected. The opinions of counsel will not bind the courts, nor will they preclude the Internal Revenue Service from adopting a position contrary to those expressed in the opinions. Neither PharmAthene nor Theraclone intends to obtain a ruling from the Internal Revenue Service with respect to the federal income tax consequences of the Merger.

***Imputed Interest on Distributions of PharmAthene Common Stock from Escrow to Theraclone Stockholders***

Distributions of PharmAthene common stock from the Escrow to the Theraclone stockholders are scheduled to be made nine (9) months after the Closing Date of the Merger (the "Indemnity Period"). However, if PharmAthene makes indemnification claims against the Escrow during the Indemnity Period, then those indemnity claims will be resolved before the distributions are made to PharmAthene for valid indemnity claims and to the Theraclone stockholders of any excess. It is possible that such PharmAthene indemnity claims will not be resolved until more than one year after the Closing Date of the Merger. If distributions of

PharmAthene common stock are made to Theraclone stockholders more than one year after the Closing Date of the Merger, then a portion of each distribution of PharmAthene common stock from the Escrow to each Theraclone stockholder (even if made within one year after the Closing Date of the Merger) will be treated as imputed interest under Section 483 of the Code, based upon the applicable federal rate and the period between the Closing Date of the Merger and the date of the distribution of the PharmAthene common stock from the Escrow to the Theraclone stockholder. The imputed interest will be ordinary income to the Theraclone stockholder, rather than capital gain, and will be subject to federal income tax at ordinary income tax rates, rather than long term capital gain tax rates.

***Gain or Loss to Theraclone Stockholders on Distributions of PharmAthene Common Stock from Escrow to PharmAthene***

Distributions of PharmAthene common stock from the Escrow to PharmAthene for indemnification claims, valued for this purpose at the value of PharmAthene common stock as of the date of such distribution, will result in gain or loss to each Theraclone stockholder equal to such Theraclone stockholder's proportionate share of the value of such PharmAthene common stock distributed to PharmAthene, minus such Theraclone stockholder's adjusted basis in such PharmAthene common stock distributed to PharmAthene. Such gain or loss will generally be capital gain or loss.

***Treatment of Theraclone Stockholders Who Exercise Appraisal Rights***

The discussion above does not apply to Theraclone stockholders who properly perfect appraisal rights with respect to such stockholder’s shares of Theraclone capital stock. Generally, a Theraclone stockholder who perfects appraisal rights and receives cash in exchange for such stockholder’s Theraclone capital stock will recognize capital gain or loss measured by the difference between the amount of cash received and such stockholder’s adjusted tax basis in those shares. Such gain or loss will generally be long-term capital gain or loss, provided the shares of Theraclone capital stock were held for more than one year before the disposition of the shares. The deductibility of capital losses is subject to limitations.

***Imputed Interest on Distributions of PharmAthene Common Stock from Escrow to Theraclone Stockholders More Than One Year After the Closing Date of the Merger.***

Distributions of PharmAthene common stock from the Escrow to the Theraclone stockholders are scheduled to be made after the Indemnity Period. However, if PharmAthene makes indemnification claims against the Escrow during the Indemnity Period, then those indemnity claims will be resolved before the distributions are made to PharmAthene for valid indemnity claims and to the Theraclone stockholders of any excess. It is possible that such PharmAthene indemnity claims will not be resolved until more than one year after the Closing Date of the Merger. In such event, a portion of the distribution of PharmAthene common stock to each Theraclone stockholder will be treated as imputed interest under Section 483 of the Code, based upon the applicable federal rate in effect upon the Closing Date of the Merger and the period between the Closing Date of the Merger and the date of the distribution of the PharmAthene common stock from the escrow to the Theraclone stockholder. The imputed interest will be ordinary income to the Theraclone stockholder, rather than capital gain, and will be subject to federal income tax at ordinary income tax rates, rather than long term capital gain tax rates.

***Information Reporting and Backup Withholding***

Generally, non-corporate Theraclone stockholders may be subject to information reporting and backup withholding (currently at a rate of 28 percent) with respect to cash received in lieu of a fractional share interest in PharmAthene common stock or cash received for perfecting appraisal rights. However, backup withholding will not apply to a Theraclone stockholder who furnishes a valid taxpayer identification number and complies with certain certification procedures or otherwise establishes an exemption from backup withholding. Backup withholding is not an additional U.S. federal income tax. Any amounts so withheld will be allowed as a refund or credit against the Theraclone stockholder’s U.S. federal income tax liability (if any), provided that the Theraclone stockholder timely furnishes the required information to the IRS.

**The foregoing summary of material U.S. federal income tax consequences is not intended to be a complete analysis or description of all potential U.S. federal income tax consequences of the merger. In**

**addition, the summary does not address tax consequences that may vary with, or are contingent on, individual circumstances. Moreover, the summary does not address any U.S. federal non-income tax or any non-U.S., state or local tax consequences of the merger, nor any tax consequences of any transaction other than the merger. Accordingly, each Theraclone stockholder is strongly urged to consult his, her or its own tax advisor to determine the particular federal, state, local, or non-U.S. income or other tax consequences of the merger to such Theraclone stockholder.**

## PHARMATHENE'S BUSINESS

### Overview

PharmAthene is a leading biodefense company engaged in the development and commercialization of next generation medical countermeasures against biological and chemical threats. PharmAthene's current biodefense portfolio includes the following product candidates:

- SparVax®, a next generation recombinant protective antigen anthrax vaccine;
- rBChE (recombinant butyrylcholinesterase) bioscavenger, a medical countermeasure for nerve agent poisoning by organophosphorous compounds, including nerve gases and pesticides; and
- Valortim®, a fully human monoclonal antibody for the prevention and treatment of anthrax infection.

In May 2013, the FDA lifted the clinical hold it had placed on SparVax® in August 2012. PharmAthene is now in discussions with BARDA regarding the commencement of its planned Phase II clinical trial for that product candidate.

In addition, in May 2013 the Delaware Supreme Court affirmed a September 2011 ruling of the Delaware Court of Chancery that SIGA had breached certain contractual obligations to PharmAthene. The matter is on remand to the Delaware Court of Chancery to determine a remedy in light of the Delaware Supreme Court's decision. Previously the Delaware Chancery Court had awarded PharmAthene the right to receive 50% of all net profits (as defined in the court's final judgment) related to the sale of SIGA, Arestvyr™ (formerly known as ST-246®) and related products for 10 years following initial commercial sale of the drug once SIGA earns $40.0 million in net profits from the sales of Arestvyr™ and related products and a portion of PharmAthene's attorney's fees and expert witness and other costs. While PharmAthene believes there may be significant revenue potential under a potential damages award, there can be no assurance that the Delaware Chancery Court will re-instate its prior remedy or order another remedy for PharmAthene, that SIGA will not appeal any subsequent decision by the Delaware Chancery Court, or that SIGA will not be successful in any subsequent appeal. Currently, because the Delaware Supreme Court remanded the issue of a remedy back to the Delaware Chancery Court, PharmAthene no longer has a fiancial interest in Arestvyr™ and may never receive any proceeds from the product.

Information concerning PharmAthene's financial position and results of operations can be found in its consolidated financial statements as well as in the section entitled "PHARMATHENE MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" included in this proxy statement/prospectus/consent solicitation.

### Background of PharmAthene

PharmAthene was formed in April 2005 as Healthcare Acquisition Corp., a special purpose acquisition company, formed solely to acquire a then unidentified business. On August 3, 2005, Healthcare Acquisition Corp. consummated its initial public offering. On August 3, 2007, Healthcare Acquisition Corp. acquired all the outstanding equity of PharmAthene, Inc., then a privately held Delaware corporation engaged in the biodefense business, and changed its name from Healthcare Acquisition Corp. to PharmAthene, Inc. This transaction is referred to in this proxy statement/prospectus/consent solicitation as the 2007 Merger.

In March 2008, PharmAthene, Inc., through its wholly owned subsidiary PharmAthene UK Limited, acquired substantially all the assets and liabilities related to the biodefense vaccines business, or the Avecia Acquisition, of Avecia Biologics Limited, along with its affiliates, Avecia.

PharmAthene's executive offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is 410-269-2600. PharmAthene's common stock trades on the NYSE MKT (formerly NYSE Amex) under the symbol "PIP." PharmAthene maintains a website at *http://www.PharmAthene.com*. The information contained on or connected to PharmAthene's website is expressly not incorporated by reference into this proxy statement/prospectus/consent solicitation. PharmAthene makes available for download free of charge through its website its annual report on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after it has electronically filed, or furnished, them to the SEC.

**Business Concept and Strategy**

PharmAthene's goal is to become one of the leading companies specializing in the development and commercialization of best-in-class prophylactic and therapeutic drugs for defense against biological and chemical threats and emerging infectious diseases worldwide. In assembling its product candidate portfolio, PharmAthene has adhered to a strategy emphasizing specific selection criteria to enhance the likelihood of U.S. government procurement. These selection criteria include:

- demonstration of technical proof-of-concept in humans and/or appropriate animal models;
- advantages over existing products or technologies;
- demonstrated interest by the U.S. Government in procurement; and
- a defined development path and regulatory strategy.

PharmAthene seeks to acquire and develop leading compounds and technologies targeting the highest priority U.S. Government biodefense requirements. PharmAthene also looks to bring products into its portfolio with dual-use potential that may serve both biodefense and commercial markets.

PharmAthene has developed and will continue to develop novel biodefense product development and contracting capabilities. Development of these capabilities has required a substantial investment, which it may leverage further through possible acquisitions of additional biodefense product candidates, whether under licensing deals, mergers and acquisitions, or otherwise. PharmAthene believes that product opportunities will come primarily from companies focused on commercial markets that wish to see their products or technologies exploited in biodefense.

**Biodefense Industry**

***Market Overview:*** The worldwide biodefense market can generally be divided into three segments: U.S. civilian, U.S. military, and non-U.S. markets. U.S. government funding represents the vast majority of the worldwide market. According to the University of Pittsburgh Medical Center - Center for Biosecurity, U.S. government biodefense military and civilian spending was over $5.7 billion in fiscal year 2011 and was estimated at approximately $5.6 billion in fiscal year 2012.

***U.S. Civilian Market:*** The U.S. civilian market includes funds to protect the U.S. population from biowarfare agents and is largely funded by the Project BioShield Act of 2004. Project BioShield, the U.S. government's largest biodefense initiative, seeks to accelerate the research, development and purchase of medical countermeasures, or MCMs. At the end of calendar year 2012, approximately $500 million was in the Project BioShield Special Reserve fund, or SRF, set aside specifically for the procurement of MCMs. As $415 million was the level of annual funding for BARDA operations in fiscal year 2012, that amount was transferred from the SRF to cover fiscal year 2013 operating expenses, and thus will not be available for product purchases for the SNS. Congress has yet to reach agreement on a budget for fiscal year 2014. Consequently, the amount and nature of future federal budget spending and funding to BARDA is uncertain.

The Pandemic and All Hazards Preparedness Act, or PAHPA, legislation reauthorizing key biodefense authorities was passed by Congress and signed into law in March 2013.

***U.S. Military Market:*** The Department of Defense or DoD, is responsible for the development and procurement of countermeasures for the military segment, which focuses on providing biowarfare protection for military personnel and civilians who are on active duty. Under the continuing resolution, DoD is currently operating at the fiscal year 2012 and is subject to the sequester. Congress has not reached agreement on a budget for fiscal year 2014. Consequently, fiscal year 2014 funding levels for DoD are unknown at this time.

***Non-U.S. Markets:*** Non-U.S. markets address protection against biowarfare agents for both civilians and military personnel in foreign countries. PharmAthene anticipates that foreign countries will procure biodefense products as they are developed and validated by procurement by the U.S. government.

***Project BioShield.*** Project BioShield, established under the Project BioShield Act of 2004 and the U.S. government's largest biodefense initiative, is focused on acquiring products with low technological risk that will be available for purchase in the near term. The U.S. government has identified the following threats as

critical biodefense priorities: anthrax, smallpox, botulinum toxin, radiation, and nerve agent exposure. To evaluate and select the best products for these threats, the DHHS, typically issues Requests for Information followed by RFPs. RFPs detail product and procurement requirements including treatment types, numbers of doses and delivery timeframes. To qualify for Project BioShield funding, products must demonstrate product efficacy in an animal model and complete advanced development activities, and companies must show that they can provide sufficient manufacturing capability. As of June 30, 2013, nine awards have been made under Project BioShield, including those for the treatment or prevention of anthrax, smallpox, radiation and botulinum toxin.

*Anthrax*

The three general modes of infection by *Bacillus anthracis* or *B. anthracis*, the bacterium which causes anthrax infection, are by inhalation, ingestion or skin contact with anthrax spores. Inhalational anthrax is the most lethal form of infection and occurs when anthrax spores become airborne and enter a person's body through the lungs. Inhalational anthrax is almost always fatal if left untreated; the mortality rate in patients treated aggressively with antibiotics and supportive care is 50% or less. Persons infected by *B. anthracis* that is ingested will suffer from gastrointestinal anthrax; those whose skin comes into contact with anthrax will suffer from cutaneous anthrax. Gastrointestinal anthrax has a mortality rate of more than 40% if left untreated. Cutaneous anthrax generally causes skin infections within a week or two after exposure. Cutaneous anthrax is the least fatal. Without treatment, approximately 20% of all skin infection cases are fatal. Treated cutaneous anthrax is rarely fatal.

The DoD estimates that up to ten countries may possess anthrax weapons and an undetermined number of individuals and terrorist groups could have access to anthrax. Anthrax is an effective bioterrorism agent because the spores are stable for extended periods of time (years), can be milled to a fine powder, and can be widely dispersed with readily available instruments and machinery. The U.S. Congressional Office of Technology Assessment in 1993 analyzed the potential scope of an anthrax attack, calculating that there would be between 130,000 and 3 million deaths following the release of 100 kilograms of anthrax in a highly populated area.

In light of the limited effectiveness of current antibiotics and supportive care, PharmAthene believes that currently available treatments for inhalational anthrax — antibiotics and vaccines — are suboptimal. Following exposure, but prior to the onset of symptoms, antibiotics like ciprofloxacin, doxycycline or penicillin can be used as post-exposure prophylaxis with the goal of preventing progression of the disease with a recommended antibiotic course of treatment of 60 days, sometimes in combination with the administration of an existing anthrax vaccine. PharmAthene believes that both compliance and side effects are problematic for anyone asked to take antibiotics for such an extended period of time. Furthermore, antibiotic resistance, whether naturally occurring or genetically engineered, is a concern.

*Smallpox*

Smallpox virus is classified as a Category 'A' agent by the U.S. Centers for Disease Control and Prevention and is considered one of the most significant threats for use as a biowarfare agent. Although declared eradicated in 1979 by the WHO there is a threat that a rogue nation or a terrorist group may already possess or have the capability to produce an illegal inventory of the virus that causes smallpox. Inventories of the virus are known to be contained under extremely tight security at the CDC in Atlanta, Georgia and Vector laboratory in Russia.

Many scientists agree that with the scientific tools available today smallpox can be created by modifying another orthopox virus available naturally worldwide by a scientist with access to a modern laboratory. Studies conducted prior to the eradication of natural reservoirs of smallpox virus show that the disease has a mortality rate of 30% or higher, and survivors are scarred and can suffer other permanent detriments.

*Chemical Weapons and Nerve Agents*

Chemical weapons use the toxic properties of chemical substances to produce physiological effects on an enemy or civilian target. Classic chemical weapons, such as chlorine and phosgene, were employed during World War I and consisted primarily of commercial chemicals used as choking and blood agents, to cause respiratory damage and asphyxiation. Organophosphorous agents (nerve agents), one of the most lethal forms of chemical weapons, were developed in the 1930s in the years leading up to World War II.

Nerve agents function by binding to acetylcholinesterase, an enzyme that normally causes termination of the activity of the neurotransmitter acetylcholine. Nerve agents block the activity of acetylcholinesterase, allowing the activity of acetylcholine to continue unchecked. As a result, nerve impulses are continually transmitted, causing muscle contractions that do not stop. This effect is referred to as a “cholinergic crisis” and results in a loss of muscle control, respiratory failure, paralysis and convulsions. Nerve agent exposure that does not cause death after a short period can lead to permanent brain damage.

There is currently only one FDA-approved pre-treatment for nerve agents, pyridostigmine bromide, or PB. PB is only approved for the pre-treatment of exposure to the nerve agent soman. It confers no protection on its own but enhances the protection conferred by post-exposure treatment. The standard of care for post-exposure treatment involves repeated doses of a cocktail of drugs including atropine, reactivators including the oxime 2-PAM, and anti-convulsants. However, this type of treatment acts primarily on the symptoms of nerve agents, not their underlying cause. PharmAthene believes available pre-and post-treatment options are inadequate and that there is a need for more efficacious countermeasures, especially as evidence mounts that modified, more toxic forms of nerve agents may be used in future attacks.

**Product Candidates**

***SparVax®: Recombinant Protective Antigen (PA)-based Anthrax Vaccine***

SparVax® is a second generation, rPA anthrax vaccine designed to protect against inhalational anthrax, the most lethal form of *B. anthracis* infection in humans. The vaccine has been shown to induce anti-Protective Antigen, or PA, antibodies in clinical trials in healthy human volunteers and in animal models of inhalational anthrax. These antibodies are believed to function by targeting PA, a protein component necessary for the transportation of bacterial toxins into the cell and the subsequent toxic cascade that leads to morbidity and mortality. Vaccination with SparVax® generates high titers of antibodies and up to 100% efficacy in rabbits and non-human primates that are subsequently exposed to lethal inhalation doses of anthrax spores. One Phase I and two Phase II clinical trials have been completed involving approximately 770 individuals. Data from these trials demonstrated that SparVax® is generally well tolerated, and immunogenic.

SparVax® is being developed for two indications: post-exposure prophylaxis, or PEP, in conjunction with antibiotics and general use prophylaxis, or GUP. In a PEP setting, the vaccine would be administered following a suspected exposure to augment the natural immune response and provide protection once antibiotics are discontinued. In the GUP setting, the vaccine is administered in advance of any exposure and is intended to induce an immune response that will be protective should there be an exposure.

*Preclinical Safety Studies*

Prior to an Investigational New Drug, or IND, application being filed with the FDA, SparVax® underwent safety testing in mice, rats, and rabbits and non-human primates. SparVax® was well tolerated with no deaths and no behavioral or clinical signs observed in all species. All of the toxicology studies were compliant with Good Laboratory Practices, or GLP, and the data were used to support the IND and allowed for the initiation of clinical trials of SparVax®.

*Non-clinical Studies*

Clinical trials to demonstrate efficacy of an anthrax vaccine in humans are unethical; therefore, PharmAthene’s strategy is to obtain licensure of SparVax® via the FDA’s Animal Rule (21 CFR 601.90) which allows for efficacy testing in appropriate animal models in lieu of human clinical efficacy trials. To date, a majority of its animal model development and efficacy studies in both rabbits and non-human primates for both GUP and PEP indications using SparVax® have been sponsored by the NIAID, and conducted by a contract research organization. Data from these studies have shown that SparVax® is immunogenic and efficacious in both rabbits and non-human primates and that immunogenicity and protection against an aerosol challenge are dependent on vaccine dosage; the vaccine used in these studies was manufactured using drug substance manufactured at Avecia. A rabbit efficacy study was performed following the successful transfer of technology and scale up to a 1,500 liter (bioreactor) commercial scale process. The results of this recent study confirm previous findings that immunogenicity and protection conferred by SparVax® are dependent upon vaccine dosage. Moreover, these results and other studies have demonstrated that the drug product made using drug substance manufactured at FUJIfilm Diosynth Biotechnologies USA, or Diosynth, is comparable to the vaccine based on drug substance manufactured at Avecia.

*Clinical Trials*

The Phase I trial was a dose escalation study designed to evaluate a range of dosage levels administered with either of two different dosing schedules. There were no vaccine-related serious adverse events or changes in blood chemistries, vital signs or electrocardiograms, or ECGs, reported. The results demonstrated that the vaccine was generally well tolerated, and immunogenic and that the immunogenic response was dependent on vaccine dosage.

The Phase II program was designed to evaluate the safety and immunogenicity of the two highest dosages tested in Phase I using a three dose regimen in a larger number of subjects. Two Phase II trials were conducted, both of which studied the effect of different vaccine dosage levels and schedules.

In the Phase IIa trial, SparVax® was shown to be immunogenic and generally well tolerated with no vaccine-related serious adverse events.

The Phase IIb trial compared a longer dosing regimen at two different vaccine dosages with a smaller control group that received the currently licensed anthrax vaccine, BioThrax®. As in the Phase IIa trial, SparVax® was immunogenic and generally well tolerated with no vaccine-related serious adverse events. The immunogenicity data showed that SparVax® elicited an immune response after the primary immunization series as well as having induced an anamnestic response after a booster dose given at 6 or 12 months after the primary dosing schedule. While both SparVax® and BioThrax® were immunogenic following a 3-dose series with seroconversion rates of approximately 90% (as measured by ELISA titers), an increased proportion of individuals experienced injection site pain in the BioThrax® group (where the vaccine was administered subcutaneously) as compared to the SparVax® groups.

Future studies will seek to confirm the dose and schedule of SparVax® that induces antibody levels in humans which are comparable to those shown to be protective in the animal models, demonstrate the acceptability of using SparVax® in conjunction with antibiotics, and confirm the safety of SparVax® in a sufficient number of human subjects (as required by FDA).

*Product Stability*

In 2011, PharmAthene announced that SparVax® product produced from bulk drug substance manufactured at Avecia Biologics Laboratories in the United Kingdom had demonstrated 52 month stability. Moreover, PharmAthene has demonstrated over 36 month stability for its final drug product vaccine formulation based on bulk drug substance manufactured at Avecia. The stability data were prepared utilizing a variety of analytical methods and a mouse challenge potency assay. Subsequent to the transfer of manufacturing technology to Diosynth, one 1,500 liter engineering lot of bulk drug substance and one 1,500 liter GMP lot of bulk drug substance were manufactured at Diosynth; engineering and GMP lots of final drug product were manufactured from aliquots of the engineering and GMP lots of bulk drug substance, respectively. The GMP bulk drug substance and final drug product lots are currently on formal International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use or ICH, compliant stability programs. In parallel, the stability of the engineering lots of bulk drug substance and final drug product is also being monitored to support the findings from the formal stability programs. Data obtained to date demonstrate that the bulk drug substance produced at Diosynth is stable for at least 18 months and the final drug product derived from Diosynth bulk drug substance is stable for at least 18 months.

In August 2012, PharmAthene received notification from the FDA that PharmAthene's SparVax® rPA anthrax vaccine program was placed on clinical hold prior to initiating any patient dosing. The FDA has requested additional stability data and information related to the stability indicating assays. PharmAthene provided supporting data and information to the FDA and commenced discussions with that agency as well as its customer, BARDA, regarding the clinical hold. FDA lifted the clinical hold in May 2013, and PharmAthene has obtained from BARDA funding and consent for the planned Phase II human clinical trial with SparVax,® which PharmAthene hopes to commence in the fourth quarter of 2013.

*Funding*

To date, funding for the development of SparVax® has occurred under two contracts from the National Institutes of Health, or NIH, originally entered into in 2002 and 2003 which, not including the modification discussed below, provided for aggregate funding of up to approximately $128 million.

In April 2009, the United States Government transferred the SparVax® contract to BARDA. In February 2010, PharmAthene and BARDA entered into negotiations to modify their existing advanced development contract for SparVax®. During the base period of performance under the contract modification PharmAthene has been funded up to approximately $62 million on a cost-reimbursement-plus-fixed-fee basis, assuming that all milestones are achieved. The contract was subsequently modified to extend the period of performance through February 2014. As of June 30, 2013, approximately $18.6 million remains available under base contract funding. In August 2013 BARDA made available an additional $8 million to help support a Phase II clinical trial for SparVax®, a non-clinical rabbit study involving SparVax®, as well as additional work. In addition, approximately $17 million in unfunded options remained under the contract. It is unclear when or if BARDA will consider a new funding request.

***Recombinant Human Butyrylcholinesterase Nerve Agent Countermeasure***

In 2006, PharmAthene entered into a contract with the DoD to develop its Protexia® medical countermeasure for chemical nerve agent exposure to protect the warfighter from physiological damage. This program utilized the recombinant enzyme butyrylcholinesterase, or rBChE, a naturally occurring bioscavenger, as its active ingredient. This first generation program for producing rBChE utilized transgenic goats to produce the enzyme in their milk. This contract expired on December 31, 2010, and PharmAthene shut down its Protexia® related operations and sold its production facilities in December 2011.

PharmAthene has also been working on a second generation approach, which PharmAthene refers to as its Advanced Expression System, or AES, that utilizes a mammalian-cell-based expression system (i.e., the PER.C6® human cell line) for rBChE. In August 2011 DoD awarded PharmAthene a fixed price contract for up to approximately $5.7 million to support its on-going research into the production of rBChE using this mammalian-cell culture-based advanced expression system. As of June 30, 2013, approximately $0.6 million remains available under this contract. While the AES technology is still at an early research stage, if its efforts are successful, PharmAthene believes this cell culture-based approach could have significant advantages over the transgenic goat-based approach originally developed to produce Protexia®. Specifically, PharmAthene believes these advantages could include:

- An established manufacturing platform, consistent with those used for other biotechnology products and with the U.S. government's recent advanced manufacturing system initiative;
- Final product with a pharmacokinetic (PK) profile that more closely resembles naturally occurring butyrylcholinesterase, or BChE, from human blood;
- Higher production yields than a transgenic goat based approach;
- Substantially lower costs of production to yield significant savings to PharmAthene's DoD and, potentially, civilian customers;
- A more traditional and streamlined regulatory path to FDA licensure; and
- Greater ability to scale up production if demand increases.

In December 2012, PharmAthene exclusively licensed from Percivia the rights for use of the PER.C6® human cell line for the manufacture of PharmAthene's rBChE product. This platform offers many advantages over traditional expression systems and should enable the final product to have a pharmacokinetic profile that more closely matches the naturally occurring BChE found in human plasma.

***Valortim®: Anthrax Monoclonal Antibody***

Valortim® is a fully human monoclonal antibody designed to protect against and treat human inhalational anthrax, as both post-exposure prophylaxis (i.e., before symptoms manifest) and post-exposure therapy (i.e., once symptoms are evident). Valortim® utilizes a novel mechanism of action similar to natural immune response. Valortim® is designed to bind to PA and protect the cells from damage by the anthrax toxins. In non-clinical studies, animals were protected against this fatal disease when Valortim® was administered following a lethal aerosol challenge of anthrax spores, demonstrating that Valortim® induces recovery and survival in animals exposed to inhalational anthrax.

*BMS Collaboration and Development Timeline*

PharmAthene is developing Valortim® in collaboration with Bristol-Myers Squibb, or BMS, pursuant to a collaboration agreement entered into in November 2004. Under the terms of the collaboration agreement, PharmAthene and BMS will share operating profits according to a formula that establishes its share of the profits at between 20% and 60%, with the final split largely dependent on the amount of funding provided by PharmAthene prior to sale of product to the U.S. government. Prior to distribution of operating profits, each party is entitled to reimbursement of research and development expenses incurred that were not otherwise covered by government funding. Valortim® has received Fast Track designation from the FDA as well as orphan drug status.

*Clinical and Non-clinical Studies*

Valortim® is being developed for two indications: (i) post-exposure prophylaxis, and (ii) as a therapeutic.

*Clinical Phase I Trials*

In 2006 PharmAthene and BMS completed an initial Phase I open-label, dose-escalation clinical trial to evaluate the safety, tolerability, immunogenicity, and pharmacokinetics (the study of absorption, metabolism and action of drugs) of a single dose of Valortim® administered intravenously or intramuscularly in healthy volunteers. No drug-related serious adverse effects were reported. In August 2009 PharmAthene began a second Phase I clinical trial of Valortim® in combination with the antibiotic ciprofloxacin. During the course of the study, there were two serious adverse events, so PharmAthene halted the trial and the FDA placed the study on partial clinical hold. Following an investigation, the FDA lifted the partial clinical hold in December 2010, and PharmAthene then commenced and completed an intravenous (IV) dose-escalation study of Valortim®. PharmAthene submitted the final study report to FDA for the trial in January 2012.

*Non-clinical Studies*

PharmAthene has conducted studies in two animal models to evaluate the use of Valortim® as a post-exposure prophylaxis. Treatment in both animal models was initiated within one hour following exposure to the anthrax spores. Eighty-five percent of rabbits treated intravenously with doses of Valortim® survived following inhalation exposure to anthrax spores. One hundred percent of cynomolgus monkeys treated intramuscularly with doses of Valortim® were protected from death following exposure to inhalational anthrax spores.

PharmAthene has conducted studies in rabbits to evaluate the use of Valortim® as a therapeutic intervention for inhalational anthrax. This indication for Valortim® would be intended to treat patients who have already developed signs and/or symptoms of inhalational anthrax. In two studies, up to 100% of the animals survived that were treated with Valortim® intravenously at the time they tested positive for the presence of PA in the blood or had significant increases in body temperature.

PharmAthene has also conducted two studies in African green monkeys treated with Valortim® at the time they tested positive for the presence of PA in the blood. Up to 70% of animals treated intravenously with Valortim® survived. In contrast, the mortality rate for animals exposed to inhalational anthrax that received a saline control at the time they tested positive for the presence of PA in the blood is close to 100%.

*Funding*

In 2006 and 2008, PharmAthene received DoD funding for the advancement of Valortim® in the aggregate amount of $4.2 million, all of which was received by December 31, 2012. In September 2007, NIAID awarded PharmAthene a $13.9 million contract for the advanced development of Valortim® as an anti-toxin therapeutic to treat inhalational anthrax infection. In April 2009 that amount was increased to $15.9 million (which was reduced to $15.3 million in August 2010). Funding from NIAID ran through January 31, 2012, when this contract ended.

In August 2012, PharmAthene responded to BARDA Solicitation RFP-12-100-SOL-00026, an Indefinite-Delivery, Indefinite-Quantity (ID/IQ) contract for the acquisition of anthrax antitoxins. In November 2012, BARDA notified PharmAthene that PharmAthene’s proposal was within the competitive range for award consideration, and in January 2013 PharmAthene submitted PharmAthene’s Final Proposal Revision. While the ID/IQ would not guarantee funding for the Valortim® program, if awarded it would provide PharmAthene

with a contract vehicle under which to compete for specific work orders submitted by BARDA on an expedited basis with others included in the ID/IQ contract.

There can be no assurance PharmAthene will be successful in obtaining additional financial support for this program.

***PharmAthene's Interest in ARESTVYR™: Smallpox antiviral***

Arestvyr™, which is being developed by SIGA, is an orally administered antiviral drug candidate to treat orthopox virus diseases including smallpox. Arestvyr™ acts by blocking the ability of the virus to spread to other cells, preventing it from causing disease. The FDA has designated Arestvyr™ for "fast-track status" enabling potential expedited FDA review and approval. In addition, Arestvyr™ has been granted Orphan Drug designation for both the treatment and prevention of smallpox.

In addition, in May 2013, the Delaware Supreme Court affirmed a September 2011 ruling of the Delaware Court of Chancery that SIGA had breached certain contractual obligations to PharmAthene. The matter is on remand to the Delaware Court of Chancery to determine a remedy in light of the Delaware Supreme Court's decision. Previously the Delaware Court of Chancery had awarded PharmAthene the right to receive 50% of all net profits (as defined in the court's final judgment) related to the sale of SIGA's Arestvyr™ (formerly known as ST-246®) and related products for 10 years following initial commercial sale of the drug once SIGA earns $40.0 million in net profits from the sales of Arestvyr™ and related products and a portion of PharmAthene's attorney's fee and expert witness and other costs.

SIGA indicated in its investor conference call held on August 5, 2013 that it had delivered approximately 590,000 courses of Arestvyr™ to BARDA and billed the government $79.0 million for that product. SIGA also stated that it expects to fully deliver 2 million courses of Arestvyr™ by the end of 2014. As a result of the Delaware Supreme Court's May 2013 decision, there can be no assurance that the Chancery Court will issue a remedy that provides PharmAthene with a financial interest in Arestvyr™ and related products or any remedy. Even if the Court of Chancery does provide PharmAthene with a remedy that provides PharmAthene with a financial interest in Arestvyr™, PharmAthene may never receive any proceeds from SIGA's future sales of that product. SIGA's ability to deliver product to the SNS, and the timing thereof, is subject to a number of significant risks and uncertainties (certain of which are outlined in SIGA's filings with the SEC), as to which PharmAthene has limited knowledge and which it has no ability to control, mitigate or fully evaluate. For a description of risk related to this litigation, see "RISK FACTORS — Risks Related to the Proposed Merger — PharmAthene's valuation is highly dependent on the outcome of the SIGA litigation and, because the timing and outcome of the SIGA litigation is inherently uncertain, its impact on PharmAthene cannot be determined with certainty," " — Even if the Delaware Chancery Court re-instates its prior remedy or another remedy granting PharmAthene a financial interest in Arestvyr™, the potential value of any damages that may be awarded to PharmAthene is subject to several variables, many of which are controlled by SIGA, and uncertainties, including the timing of any final decision by the courts, which preclude the current calculation of a predictable value of the SIGA litigation," and " — As a result of the ruling of the Delaware Supreme Court, PharmAthene no longer has a financial interest in Arestvyr™ and there can be no assurance that the Delaware Chancery Court will issue a remedy that provides PharmAthene with a financial interest in that product or another remedy."

**U.S. Government Regulation of Biological Products**

***General***

Regulation by governmental authorities in the United States and other countries will have a significant impact on PharmAthene's research, product development, manufacturing and marketing of any biopharmaceutical products. The nature and the extent to which regulations apply to PharmAthene will vary depending on the nature of any such products. PharmAthene's potential biopharmaceutical products will require regulatory approval by governmental agencies prior to commercialization. The products PharmAthene is developing are subject to federal regulation in the United States, principally by the FDA under the Public Health Service Act and Federal Food, Drug, and Cosmetic Act, or FFDCA, and by state and local governments, as well as regulatory and other authorities in foreign governments that include rigorous preclinical and clinical testing and other approval procedures. Such regulations govern or influence, among

other things, the research, development, testing, manufacture, safety and efficacy requirements, labeling, storage, recordkeeping, licensing, advertising, promotion, distribution and export of products, manufacturing and the manufacturing process. In many foreign countries, such regulations also govern the prices charged for products under their respective national social security systems and availability to consumers.

The Public Health Service Act classifies PharmAthene's current drug candidates which are produced using biological systems, as biological drug products, or Biologics. All drugs intended for human use, including Biologics, are subject to rigorous regulation by the FDA in the United States and similar regulatory bodies in other countries. The steps ordinarily required by the FDA before a biological drug product may be marketed in the United States are similar to steps required in most other countries and include, but are not limited to:

- completion of preclinical laboratory tests, preclinical animal testing and formulation studies;
- submission to the FDA of an IND, which must be in effect before clinical trials may commence;
- submission to the FDA of a BLA that includes preclinical data, clinical trial data and manufacturing information;
- FDA review of the BLA;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facilities; and
- FDA approval of the BLA, including approval of all product labeling.

The research, development and approval process requires substantial time, effort and financial resources, and approvals may not be granted on a timely or commercially viable basis, if at all.

Preclinical testing includes laboratory evaluations to characterize the product's composition, impurities, stability, and mechanism of its biologic effect, as well as animal studies to assess the potential safety, purity and potency of each product. Preclinical safety tests must be conducted by laboratories that comply with FDA regulations regarding Good Laboratory Practices, or GLP, and the U.S. Department of Agriculture's Animal Welfare Act. Violations of these laws and regulations can, in some cases, lead to invalidation of the tests, requiring such tests to be repeated and delaying approval of the BLA. The results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND and are reviewed by the FDA before the commencement of human clinical trials. Unless the FDA objects to an IND by placing the study on clinical hold, the IND will go into effect 30 days following its receipt by the FDA. The FDA may authorize trials only on specified terms and may suspend clinical trials at any time on various grounds, including a finding that patients are being exposed to unacceptable health risks. If the FDA places a study on clinical hold, the sponsor must resolve all of the FDA's concerns before the study may proceed. The IND application process may become extremely costly and substantially delay development of products. Similar restrictive requirements also apply in other countries. Additionally, positive results of preclinical tests will not necessarily indicate positive results in clinical trials.

Clinical trials involve the administration of the investigational product to humans under the supervision of qualified principal investigators. PharmAthene's clinical trials must be conducted in accordance with Good Clinical Practice, or GCP, regulations under protocols submitted to the FDA as part of an IND. In addition, each clinical trial is approved and conducted under the auspices of an institutional review board, or IRB, and requires the patients' informed consent. The IRB considers, among other things, ethical factors, the safety of human subjects, and the possibility of liability of the institutions conducting the trial. The IRB at each institution at which a clinical trial is being performed may suspend a clinical trial at any time for a variety of reasons, including a belief that the test subjects are being exposed to an unacceptable health risk. Since PharmAthene's products are being developed using funding from the U.S. government, additional review by either the NIH's IRB or the DoD's IRB-equivalent will also be required. These reviews take place following approval by the independent IRB. As the sponsor, PharmAthene can also suspend or terminate a clinical trial at any time.

Clinical trials are typically conducted in three sequential phases, Phases I, II, and III, involving an increasing number of human subjects. These phases may sometimes overlap or be combined. Phase I trials are

performed in a small number of healthy human subjects or subjects with the targeted condition, and involve testing for safety, dosage tolerance, absorption, distribution, metabolism and excretion or immunogenicity for vaccine products. Phase II studies, which may involve up to hundreds of subjects, seek to identify possible adverse effects and safety risks, preliminary information related to the efficacy of the product for specific targeted diseases, dosage tolerance, and optimal dosage. Finally, Phase III trials may involve up to thousands of individuals often at geographically dispersed clinical trial sites, and are intended to provide the documentation of effectiveness and important additional safety data required for licensing. Prior to commencing Phase III clinical trials many sponsors elect to meet with FDA officials to discuss the conduct and design of the proposed trial or trials.

In addition, federal law requires the listing, on a publicly-available website, of detailed information on clinical trials for investigational drugs. Some states have similar or supplemental clinical trial reporting laws.

In 2002, the FDA amended its requirements applicable to BLAs to permit the approval of certain Biologics that are intended to reduce or prevent serious or life-threatening conditions based on evidence of safety from trial in healthy subjects and effectiveness from appropriate animal studies when human efficacy studies are not ethical or feasible. These regulations, also known as the Animal Rule, and published in the Code of Federal Regulations (21 CFR 601 Subpart H), authorize the FDA to rely on evidence from animal studies to provide evidence of a product's effectiveness under circumstances where there is a reasonably well-understood mechanism for the toxicity of the agent. Under these requirements, and with FDA's prior agreement, Biologics used to reduce or prevent the toxicity of chemical, biological, radiological or nuclear substances may be approved for use in humans based on evidence of effectiveness derived from appropriate animal studies and any additional supporting data. Products evaluated for effectiveness under this rule are evaluated for safety under preexisting requirements for establishing the safety of new drug and biological products, including Phase I through Phase II clinical trials. Under certain circumstances a single animal species may be acceptable if that animal model is sufficiently well-characterized for predicting a response in humans. The animal study endpoint must be clearly related to the desired benefit in humans and the information obtained from animal studies must allow for selection of an effective dose in humans. Products approved under the Animal Rule are subject to additional requirements including post-marketing study requirements, restrictions imposed on marketing or distribution or requirements to provide information to patients.

PharmAthene intends to rely on the Animal Rule in seeking marketing approval for its product candidates because it cannot ethically expose humans to anthrax or nerve agents. Other countries do not, at this time, have established criteria for review and approval of these types of products outside their normal review process, i.e., there is no Animal Rule equivalent in countries other than the United States.

Success in early-stage animal studies and clinical trials does not necessarily assure success in later-stage clinical trials. Data obtained from animal studies and clinical activities are not always conclusive and may be subject to alternative interpretations that could delay, limit or even prevent regulatory approval.

All data obtained from the preclinical studies and clinical trials, in addition to detailed information on the manufacture and composition of the product, would be submitted in a BLA to the FDA for review and approval for the manufacture, marketing and commercial shipments of any of PharmAthene's products. FDA approval of the BLA is required before commercial marketing or non-investigational interstate shipment may begin in the United States. The FDA may also conduct an audit of the clinical trial data used to support the BLA.

However, under the Project BioShield, the Secretary of the DHHS may, with the concurrence of the Secretary of the Department of Homeland Security, or DHS, and upon the approval of the President, contract to purchase unapproved countermeasures for the SNS in specified circumstances. The U.S. Congress is notified of a recommendation for a stockpile purchase after Presidential approval. Project BioShield specifies that a company supplying the countermeasure to the SNS is paid on delivery of a substantial portion of the countermeasure. To be eligible for purchase under these provisions, the Secretary of DHHS must determine that there are sufficient and satisfactory clinical results or research data, including data, if available, from preclinical and clinical trials, to support a reasonable conclusion that the countermeasure will qualify for

approval or licensing within eight years. The legislation also allows unlicensed products to be procured for the SNS so that they are available at the time an emergency is declared.

Project BioShield also allows the Secretary of DHHS to authorize the emergency use of medical products that have not yet been approved by the FDA. To exercise this authority, the Secretary of DHHS must conclude that:

- the agent for which the countermeasure is designed can cause serious or life-threatening disease;
- the product may reasonably be believed to be effective in detecting, diagnosing, treating or preventing the disease;
- the known and potential benefits of the product outweigh its known and potential risks; and
- there is no adequate alternative to the product that is approved and available.

Although this provision permits the Secretary of DHHS to circumvent the FDA approval process, its use would be limited to rare circumstances.

PharmAthene's products will be eligible both for consideration for procurement into the SNS and for use in the event of an emergency, although there is no guarantee that PharmAthene's products will meet the criteria set forth by DHHS or the FDA for procurement and Emergency Use Authorization, or EUA, respectively.

With regard to a BLA, the FDA may deny or delay approval of an application that does not meet applicable regulatory criteria, e.g., if the FDA determines that the preclinical or clinical data or the manufacturing information does not adequately establish the safety, purity and potency (including efficacy) of the Biologic. The FDA has substantial discretion in the approval process and may disagree with an applicant's interpretation of the data submitted in its BLA. The FDA can request additional information, seek clarification regarding information already provided in the submission or ask that clinical trials be conducted, all of which can delay approval. The FDA also may, at any time, require the submission of product samples and testing protocols for lot-by-lot confirmatory review or testing, known as lot release, by the FDA prior to commercial distribution. This means a specific lot of Biologic cannot be released for commercial distribution until the FDA has authorized such release. Similar types of regulatory processes will be encountered as efforts are made to market any Biologic internationally. PharmAthene will be required to assure product performance and manufacturing processes from one country to another.

If the FDA approves a product, it may limit the approved uses for the product as described in the product labeling, require that contraindications, warning statements or precautions be included in the product labeling, require that additional studies be conducted following approval as a condition of the approval, impose restrictions and conditions on product distribution, prescribing or dispensing in the form of a risk evaluation and mitigation strategy, or REMS, or otherwise limit the scope of any approval or limit labeling. Once it approves a BLA, the FDA may revoke or suspend the product approval if compliance with post-market regulatory standards is not maintained or if problems occur after the product reaches the marketplace. In addition, the FDA may require post-marketing studies to monitor the effect of approved products, and may limit further marketing of the product based on the results of these post-market studies. The Animal Rule requires post-marketing studies, such as field studies, to verify and describe the product's clinical benefit and assess its safety should an exigency exist that leads to the product being used in humans; the nature of these studies will be discussed with FDA as part of the BLA process. The FDA has broad post-market regulatory and enforcement powers, including the ability to levy civil and criminal penalties, suspend or delay issuance of approvals, seize or recall products and revoke approvals.

The FDA's Fast Track designation program is designed to facilitate the development and review of new drugs, including biological products that are intended to treat serious or life-threatening conditions and that demonstrate the potential to address unmet medical needs for the conditions. Fast Track designation applies to a combination of the product and the specific indication for which it is being studied. Thus, it is the development program for a specific drug for a specific indication that receives Fast Track designation. The sponsor of a product designated as being in a Fast Track drug development program may engage in early communication with the FDA, including timely meetings and early feedback on clinical trials, and may submit

portions of an application on a rolling basis rather than waiting to submit a complete application. Products in Fast Track drug development programs also may receive priority review or accelerated approval, under which an application may be reviewed within six months after a complete NDA or BLA is accepted for filing or sponsors may rely on a surrogate endpoint for approval, respectively. The FDA may notify a sponsor that its program is no longer classified as a Fast Track development program if the Fast Track designation is no longer supported by emerging data or the designated drug development program is no longer being pursued.

Biologics manufacturers, distributors and their subcontractors are required to register their facilities with the FDA and state agencies and are subject to periodic inspection by the FDA and other authorities, where applicable, and must comply with the FDA's current Good Manufacturing Practices, or cGMP, regulations, the FDA's general biological product standards, and the product establishment standards set forth in the approved BLA. The cGMP requirements for biological products in particular are extensive and compliance with them requires considerable time, resources and ongoing investment. The regulations require manufacturers to establish validated systems to ensure that products meet high standards of sterility, purity and potency. The requirements apply to all stages of the manufacturing process, including the synthesis, processing, sterilization, packaging, labeling, storage and shipment of the biological product. For all drugs and biological products, the regulations require investigation and correction of any deviations from cGMP requirements and impose documentation requirements upon PharmAthene and any third party manufacturers that it may decide to use. Manufacturing establishments are subject to periodic unannounced inspections by the FDA and state agencies for compliance with all cGMP requirements. The FDA is authorized to inspect manufacturing facilities without a warrant at reasonable times and in a reasonable manner.

PharmAthene or its present or future suppliers may not be able to comply with cGMP and other FDA regulatory requirements. Failure to comply with the statutory and regulatory requirements subjects the manufacturer to possible legal or regulatory action, such as a delay or refusal to approve a BLA, suspension of manufacturing, seizure or recall of a product, or civil or criminal prosecution of the company or individual officers or employees.

***Post-Marketing Regulation***

Any products manufactured or distributed by PharmAthene pursuant to FDA licenses or approvals are subject to pervasive and continuing regulation by the FDA, including:

- recordkeeping requirements;
- periodic reporting requirements;
- cGMP requirements related to all stages of manufacturing, testing, storage, packaging, labeling and distribution of finished dosage forms of the product;
- reporting of adverse experiences with the product; and
- advertising and promotion restrictions.

Adverse experiences with the product must be reported to the FDA and could result in the imposition of market restriction through labeling changes or product removal. Product approvals may be revoked if compliance with regulatory requirements is not maintained or if problems concerning safety or effectiveness of the product occur following approval. As a condition of NDA or BLA approval, the FDA may require post-approval testing and surveillance to monitor a product's safety or efficacy. The FDA also may impose other conditions, including labeling restrictions which can materially impact the potential market and profitability of a product.

With respect to post-market product advertising and promotion, the FDA imposes a number of complex regulations on entities that advertise and promote Biologics, including, among others, standards and restrictions on direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the Internet. The FDA has very broad enforcement authority under the FFDCA, and failure to abide by these regulations can result in administrative and judicial enforcement actions, including the issuance of a Warning Letter directing correction of deviations from FDA standards, a requirement that future advertising and promotional materials be pre-cleared by the FDA, and

state and federal civil and criminal investigations and prosecutions. Foreign regulatory bodies also strictly enforce these and other regulatory requirements and drug marketing may be prohibited in whole or in part in other countries.

PharmAthene, its collaborators or its third party contract manufacturers may not be able to comply with the applicable regulations. After regulatory approvals are obtained, the subsequent discovery of previously unknown problems, or the failure to maintain compliance with existing or new regulatory requirements, may result in:

- restrictions on the marketing or manufacturing of a product;
- Warning Letters or Untitled Letters from the FDA asking PharmAthene, its collaborators or third party contractors to take or refrain from taking certain actions;
- withdrawal of the product from the market;
- FDA's refusal to approve pending applications or supplements to approved applications;
- voluntary or mandatory product recall;
- fines or disgorgement of profits or revenue;
- suspension or withdrawal of regulatory approvals;
- refusals to permit the import or export of products;
- product seizure; and
- injunctions or the imposition of civil or criminal penalties.

***Other Regulations***

In addition to the substantial regulations enforced by the FDA, PharmAthene is also subject to various federal, state and local laws, regulations and recommendations relating to safe working conditions, laboratory and manufacturing practices, the experimental use of animals, and the use and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with PharmAthene's various activities. PharmAthene cannot accurately predict the extent of government regulation that might result from any future legislation or administrative action.

***Changing Legal and Regulatory Landscape***

Periodically legislation is introduced in the U.S. Congress that could change the statutory provisions governing the approval, manufacturing and marketing of drugs, including biological products. In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect PharmAthene's business and products. PharmAthene cannot predict whether or when legislation impacting PharmAthene's business will be enacted, what FDA regulations, guidance or interpretations may change, or what the impact of such changes, if any, may be in the future.

**Process and Analytical Development, and Manufacturing**

While PharmAthene has no drug substance or drug product development, analytical or manufacturing facilities of its own, it believes that acceptable alternatives are available through third-party CMOs and CROs. CMOs have experience in developing biological manufacturing processes and operating under cGMPs established by the Code of Federal Regulations and the Food, Drug and Cosmetic Act (Biologics) regulated by the FDA, and PharmAthene relies on them for clinical and future commercial production of PharmAthene's product candidates. CROs provide cGLP/cGMP-compliant services for product analytical tests.

For SparVax®, in June 2011 PharmAthene announced the successful completion of the technology transfer of the rPA bulk drug substance manufacturing to a new CMO, Diosynth. Subsequently in 2011 PharmAthene successfully completed a commercial scale 1,500 liter engineering run and a 1,500 liter cGMP run of SparVax® bulk drug substance at the Diosynth site. Formulation and filling of the final drug product, adjuvanted rPA, are performed at Baxter Pharmaceutical Solutions LLC, located in the United States. The final dosage presentation is in unit dose syringes. All analytical data generated to date demonstrate that the bulk

drug substance manufactured at Diosynth is comparable to bulk drug substance manufactured previously at Avecia in the UK, and in the 4th quarter 2012 FDA confirmed its concurrence that the bulk drug substances manufactured at the two sites are comparable.

For Valortim®, the cell culture and purification process was developed by BMS, and results in a commercially feasible and high purity product. PharmAthene has successfully manufactured bulk drug substance at large scale following technology transfer to a CMO, Laureate Biopharma. The final drug product has been formulated and filled, tested and released for use in clinical trials and non-clinical studies.

Certain raw materials used in producing PharmAthene's product candidates are available from only one source or a limited number of sources. PharmAthene attempts to mitigate the risk associated with such sole source raw materials by actively managing PharmAthene's inventories. PharmAthene has not experienced any shortages in supplies of such raw materials. Unavailability of certain materials or the loss of current sources of production could cause an interruption in production on a temporary basis pending establishment of new sources or, in some cases, implementation of alternative processes.

**Intellectual Property**

PharmAthene's success depends in part on its ability to obtain patents, to protect trade secrets, and to operate without infringing upon the proprietary rights of others. PharmAthene seeks to protect PharmAthene's proprietary position by, among other methods, filing U.S. and foreign patent applications related to the proprietary technology, inventions and improvements that are important to PharmAthene's business.

The following table identifies each of PharmAthene's issued and non-abandoned patents and published pending applications, in order of importance to PharmAthene:

| Patent/Patent Application | Patent Number/ Application Number | Country of Issue/Filing | Issue Date/File Date | Expiration Date |
|---|---|---|---|---|
| Anthrax Vaccine | GB2009/051293 | WO | October 2, 2009 | October 2, 2029 |
| Formulation and Uses | 12/998245 | U.S. | October 2, 2009 | October 2, 2029 |
| Thereof | 2011-529634 | Japan | October 2, 2009 | October 2, 2029 |
| | 9785720.5 | Europe | October 2, 2009 | October 2, 2029 |
| | 2,738,621 | Canada | October 2, 2009 | October 2, 2029 |
| | 2009299615 | Australia | October 2, 2009 | October 2, 2029 |
| | 212118 | Israel | October 2, 2009 | October 2, 2029 |
| Recombinant | PCT/US10/03225 | WO | December 21, 2010 | December 21, 2030 |
| Butyrlcholinesterase & | 13/517,081 | U.S. | December 21, 2010 | December 21, 2030 |
| Truncates thereof | 2012-545932 | Japan | June 21, 2012 | December 21, 2030 |
| | 10842361.7 | Europe | December 21, 2010 | December 21, 2030 |
| | 2,784,861 | Canada | June 18, 2012 | December 21, 2030 |
| | 2010340358 | Australia | December 21, 2010 | December 21, 2030 |
| | 220508 | Israel | June 19, 2012 | December 21, 2030 |
| Method for Assaying | GB07/001353 | WO | April 12, 2007 | April 13, 2027 |
| Antigens | 12/226101 | U.S. | October 7, 2008 | April 13, 2027 |
| | 2010914 | Europe | November 10, 2008 | April 13, 2027 |
| | 2,648,850 | Canada | October 9, 2008 | April 13, 2027 |
| | 2007242647 | Australia | October 24, 2008 | April 13, 2027 |
| | 194459 | Israel | November 1, 2012 | April 13, 2027 |
| Long Half-Life | US07/017279 | WO | August 2, 2007 | August 3, 2027 |
| Recombinant | 12/309909 | U.S. | February 2, 2009 | August 3, 2027 |
| Butyrylcholinesterase | 2009-523781 | Japan | February 4, 2009 | August 3, 2027 |
| | 7811030.1 | Europe | August 2, 2007 | August 3, 2027 |
| | 2659809 | Canada | February 3, 2009 | August 3, 2027 |
| | 2007281998 | Australia | February 10, 2009 | August 3, 2027 |
| | 196,871 | Israel | February 4, 2009 | August 3, 2027 |

In addition, PharmAthene is a party to various exclusive and non-exclusive licenses, which provide access to intellectual property and know-how useful for PharmAthene's products. PharmAthene is a party to license agreements with The Defence Science and Technology Laboratory of the United Kingdom Ministry of Defence, or DSTL, originally executed May 2006 and December 2006, and amended and restated in February 2009. These agreements allow for the licensing of certain patents and technology useful in PharmAthene's rPA program. Upon commercialization of a product covered by a license, the license agreements require that PharmAthene make royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial markets. No royalty payments on these licenses have been incurred. Some of PharmAthene's licenses, which generally extend for the life of any applicable patent, require PharmAthene to pay royalties on sales of products that may be derived from or produced using the licensed technology. PharmAthene derives rights to the patents, patent applications and know-how relating to Valortim® through PharmAthene's collaboration arrangement with BMS, which owns such rights. For additional information on PharmAthene's license agreements, please refer to Note 7 — Commitments and Contingencies — License Agreements in the Notes to PharmAthene's Consolidated Financial Statements.

The expiration dates for the licenses described above are as follows:

| License | Expiration Date |
|---|---|
| DSTL Anthrax | No expiration specified |
| Percivia | No expiration specified |
| BMS | Two years after the earlier of the date that (a) the collaboration product is no longer exploited under the agreement or (b) Unilateral Product (as defined in PharmAthene's collaboration agreement with BMS) is no longer exploited under a unilateral development and commercialization agreement. |

PharmAthene currently owns no material trademarks.

PharmAthene relies upon certain proprietary trade secrets, know-how and continuing technological advances to develop a competitive position. In efforts to maintain confidentiality and ownership of trade secrets, proprietary information and developments, all of PharmAthene's employees are required to execute agreements regarding confidentiality and assign to PharmAthene all rights to any inventions and processes they develop while they are employed by PharmAthene. PharmAthene intends to use license agreements to access external products and technologies as well as to convey PharmAthene's own intellectual property to others. PharmAthene will be able to protect its proprietary rights from unauthorized use by third parties only to the extent that PharmAthene's proprietary rights are covered by valid and enforceable patents or are effectively maintained as trade secrets.

**Competition**

The pharmaceutical industry is characterized by rapidly evolving technology and intense competition. A large number of companies of all sizes engage in activities similar to PharmAthene's activities and many of its competitors have substantially greater financial and other resources available to them.

***Anthrax Product Competition***

With respect to the development of a recombinant PA-based vaccine, PharmAthene is aware of three other companies developing competing vaccines that are in the clinical stage of development: Emergent BioSolutions, Inc., which is the sole supplier to the U.S. government of the only currently FDA-licensed anthrax vaccine — BioThrax® Anthrax Vaccine Adsorbed, Green Cross, and Panacea Biotec Ltd. There are a number of companies with anthrax vaccines in preclinical development including Bavarian Nordic, Dynavax, IBio, Immunovaccine, PaxVax, Vaxin, and Pfenex and there may be other companies developing competing vaccines that PharmAthene is not aware of.

Monoclonal antibodies, or mAbs, directed against PA are being developed for post-exposure prophylaxis and as symptomatic therapy for anthrax infection. There are a limited number of companies PharmAthene is

aware of with anti-anthrax mAbs and/or polyclonal antibodies in development, including Cangene Corporation, GlaxoSmithKline plc., Elusys Therapeutics, Inc., Emergent BioSolutions, Inc., and IQ Corporation BV.

There are a number of orally available small molecule and other drugs approved and/or under development for the treatment of anthrax. These include broad spectrum antibiotics as well as anthrax specific products. Bayer AG produces ciprofloxacin, or Cipro®, which has been approved for the post-exposure prophylaxis of inhalational anthrax. In late 2004, generic versions of Cipro® were also approved by the FDA. In addition, levofloxacin, an antibiotic marketed in the United States by Ortho-McNeil Pharmaceuticals, and the generic antibiotic, doxycycline, are both approved for post-exposure prophylaxis of inhalational anthrax. There may be other companies developing competing therapies that PharmAthene is not aware of.

***Nerve Agent Product Competition***

PharmAthene is aware of antidotes to nerve agents being developed by pharmaceutical companies, including Countervail Corporation, Meridian Medical Technologies, a subsidiary of Pfizer, Inc., Protalix BioTherapeutics, Inc. and Dynport Vaccine Company, LLC, in collaboration with Baxter Healthcare Corporation.

**U.S. Government Contracts**

For the foreseeable future, PharmAthene believes its main customer will continue to be national governments, primarily the U.S. government. Substantially all of PharmAthene's revenues to date have been derived from grants and U.S. government contracts. There can be no assurances that existing U.S. government contracts will be renewed or that it can enter into new contracts or receive new grants to supply the U.S. or other governments with PharmAthene's products. The process of obtaining government contracts is lengthy and uncertain.

U.S. government contracts typically contain unilateral termination provisions for the government and are subject to audit and modification by the government at its sole discretion, which will subject PharmAthene to additional risks. These risks include the ability of the U.S. government unilaterally to:

- suspend or prevent PharmAthene for a set period of time from receiving new contracts or extending existing contracts based on violations or suspected violations of laws or regulations;
- terminate PharmAthene's contracts, including if funds become unavailable or are not provided to the applicable governmental agency;
- reduce the scope and value of PharmAthene's contracts and/or revise the timing for work to be performed;
- audit and object to PharmAthene's contract-related costs and fees, including allocated indirect costs;
- control and potentially prohibit the export of PharmAthene's products;
- claim rights to products, including intellectual property, developed under the contract;
- change certain terms and conditions in PharmAthene's contracts; and
- cancel outstanding RFP solicitations (as was the case with RFP-BARDA-08-15) or BAAs.

The U.S. government will be able to terminate any of its contracts with PharmAthene either for its convenience or if it defaults by failing to perform in accordance with the contract schedule and terms. Termination-for-convenience provisions generally enable PharmAthene to recover only its costs incurred or committed, settlement expenses, and profit on the work completed prior to termination. Termination-for-default provisions do not permit these recoveries and would make PharmAthene liable for excess costs incurred by the U.S. government in procuring undelivered items from another source.

**Employees**

As of June 30, 2013, PharmAthene employed 52 persons on a full-time basis, including 35 individuals engaged in research and development activities and 17 individuals engaged in general and administrative functions, such as human resources, finance, accounting, legal and investor relations. At that date,

PharmAthene's staff included 11 employees with Ph.D. degrees. None of PharmAthene's employees are party to any collective bargaining agreement, and PharmAthene believes that its relationship with its employees is good.

Information concerning PharmAthene's directors and executive officers can be found in the section entitled "MANAGEMENT OF THE COMBINED COMPANY" and "QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT THE MARKET RISK OF PHARMATHENE."

**Financial Information by Geographic Area**

For the fiscal years ended December 31, 2012, 2011 and 2010 all revenues from external customers were attributed to United States customers. PharmAthene's country of domicile is the United States. As of December 31, 2012, 2011 and 2010 all long-lived assets, with a net book value, were located in the United States. PharmAthene Canada's long-lived assets were reclassified as assets held for sale as of December 31, 2010. Canadian long-lived assets had a net book value on January 1, 2010 of approximately $5.9 million.

**Research and Development**

During the fiscal years ended December 31, 2012, 2011 and 2010, PharmAthene spent approximately $19.5 million, $21.2 million and $20.9 million on research and development activities, respectively.

**Properties**

PharmAthene's principal executive offices are located at One Park Place, Annapolis, MD 21401 and are comprised of approximately 21,900 square feet. The lease expires in 2017. PharmAthene has also leased approximately 2,300 square feet of office space in Durham, North Carolina. This lease expired on September 30, 2013.

Management believes that these facilities are suitable and adequate to meet PharmAthene's anticipated needs.

**Legal Proceedings**

Except as noted below, PharmAthene is not a party to any material legal proceedings.

In December 2006, PharmAthene filed a complaint against SIGA in the Delaware Court of Chancery. The complaint alleged, among other things, that PharmAthene has the right to license exclusively development and marketing rights for SIGA's drug candidate, Arestvyr™ (Tecovirimat), pursuant to a Merger Agreement between the parties that was terminated in 2006. The complaint also alleged that SIGA failed to negotiate in good faith the terms of such a license pursuant to the terminated merger agreement with SIGA.

In September 2011, the Delaware Court of Chancery issued an opinion in the case finding that SIGA had breached certain contractual obligations to PharmAthene and upholding PharmAthene's claims of promissory estoppel. The Delaware Court of Chancery awarded PharmAthene the right to receive 50% of all net profits (as defined in the court's final judgment) related to the sale of Arestvyr™ (formerly known as ST-246®) and related products for 10 years following initial commercial sale of the drug once SIGA earns $40.0 million in net profits from the sale of Arestvyr™ and related products. The Delaware Court of Chancery also awarded PharmAthene a portion of its attorney's fees and expert witness and other costs. In May 2012, the Delaware Court of Chancery issued its final judgment. SIGA appealed aspects of the decision to the Delaware Supreme Court. In response, PharmAthene cross-appealed other aspects of the decision.

In May 2013, the Delaware Supreme Court issued its ruling on the appeal, affirming the Delaware Court of Chancery's finding that SIGA had breached certain contractual obligations to PharmAthene, reversing its finding of promissory estoppel, and remanding the case back to the Delaware Court of Chancery to reconsider the remedy and award of attorney's fees and expert witness and other costs in light of the Delaware Supreme Court's opinion. Currently, because the Delaware Supreme Court remanded the issue of a remedy back to the Delaware Chancery Court, PharmAthene no longer has a financial interest in Arestvyr™ and may never receive any proceeds from the product.

While PharmAthene believes there may be significant revenue potential under a potential damages award, there can be no assurance that the Delaware Court of Chancery will re-instate its prior remedy or order another remedy for PharmAthene, that SIGA will not appeal any subsequent decision by the Delaware Court of Chancery, or that SIGA will not be successful in any subsequent appeal.

## PHARMATHENE MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*The following discussion should be read in conjunction with PharmAthene's audited and unaudited consolidated financial statements, and other relevant statistical data, which appear in this proxy statement/prospectus/ consent solicitation. Some of the information contained in this discussion and analysis or set forth elsewhere in this proxy statement/prospectus/consent solicitation, including information with respect to PharmAthene's plans and strategy for its business and related financing, includes forward-looking statements that involve risks and uncertainties. You should review the sections entitled "CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS" and "RISK FACTORS" of this proxy statement/prospectus/consent solicitation for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.*

### Overview

PharmAthene is a biodefense company engaged in the development and commercialization of next generation medical countermeasures against biological and chemical threats. Its current biodefense portfolio includes the following product candidates:

- SparVax®, a next generation recombinant protective antigen, or rPA, anthrax vaccine;
- rBChE (recombinant butyrylcholinesterase) bioscavanger, a medical countermeasure for nerve agent poisoning by organophosphorous compounds, including nerve gases and pesticides; and
- Valortim®, a fully human monoclonal antibody for the prevention and treatment of anthrax infection.

In May 2013 the FDA lifted the clinical hold it had placed on SparVax® in August 2012. PharmAthene is now in discussions with BARDA regarding the commencement of its planned Phase II clinical trial for that product candidate.

In addition, in May 2013 the Delaware Supreme Court affirmed a September 2011 ruling of the Delaware Court of Chancery that SIGA had breached certain contractual obligations to PharmAthene. The matter is on remand to the Delaware Court of Chancery to determine a remedy in light of the Delaware Supreme Court's decision. Previously the Delaware Court of Chancery had awarded PharmAthene the right to receive 50% of all net profits (as defined in the court's final judgment) related to the sale of SIGA's Arestvyr™ (formerly known as ST-246®) and related products for 10 years following initial commercial sale of the drug once SIGA earns $40.0 million in net profits from the sales of Arestvyr™ and related products and a portion of PharmAthene's attorney's fees and expert witness and other costs. There can be no assurance that the Delaware Court of Chancery will re-instate its prior remedy or order another remedy for PharmAthene, that SIGA will not appeal any subsequent decision by the Delaware Court of Chancery, or that SIGA will not be successful in any subsequent appeal.

### Critical Accounting Policies

A summary of PharmAthene's critical accounting policies, including those that require the use of significant estimates and judgment, follows. A more comprehensive description of all of PharmAthene's significant accounting policies is contained in Note 2 to its consolidated financial statements.

#### *Revenue Recognition*

PharmAthene generates its revenue from different types of contractual arrangements: cost-plus-fee contracts, cost reimbursable grants and fixed price contracts.

Revenues on cost-plus-fee contracts are recognized in an amount equal to the costs incurred during the period plus an estimate of the applicable fee earned. The estimate of the applicable fee earned is determined by reference to the contract: if the contract defines the fee in terms of risk-based milestones and specifies the fees to be earned upon the completion of each milestone, then the fee is recognized when the related milestones are earned, as further described below; otherwise, PharmAthene estimates the fee earned in a given period by using a proportional performance method based on costs incurred during the period as compared to total estimated project costs and application of the resulting fraction to the total project fee specified in the contract.

When PharmAthene uses the milestone method of revenue recognition, milestone payments (including milestone payments for fees) contained in research and development arrangements are recognized as revenue when: (i) the milestones are achieved; (ii) no further performance obligations with respect to the milestone exist; (iii) collection is reasonably assured; and (iv) substantive effort was necessary to achieve the milestone.

Milestones are considered substantive if all of the following conditions are met:

- it is commensurate with either PharmAthene's performance to meet the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from PharmAthene's performance to achieve the milestone;
- it relates solely to past performance; and
- the value of the milestone is reasonable relative to all the deliverables and payment terms (including other potential milestone considerations) within the arrangement.

If a milestone is deemed not to be substantive, PharmAthene recognizes the portion of the milestone payment as revenue that correlates to work already performed; the remaining portion of the milestone payment is deferred and recognized as revenue as PharmAthene completes its performance obligations.

Revenue on fixed price contracts (without substantive milestones as described above) is recognized on the percentage-of-completion method. The percentage-of-completion method recognizes income as the contract progresses (generally related to the costs incurred in providing the services required under the contract). The use of the percentage-of-completion method depends on the ability to make reasonable dependable estimates and the fact that circumstances may necessitate frequent revision of estimates does not indicate that the estimates are unreliable for the purpose for which they are used.

As a result of PharmAthene's revenue recognition policies and the billing provisions contained in PharmAthene's contracts, the timing of customer billings may differ from the timing of recognizing revenue. Amounts invoiced to customers in excess of revenue recognized are reflected on the balance sheet as deferred revenue. PharmAthene recorded approximately $1.4 million and $0.5 million as deferred revenue as of December 31, 2012 and 2011, respectively. Amounts recognized as revenue in excess of amounts billed to customers are reflected on the balance sheet as unbilled accounts receivable.

PharmAthene analyzes each cost reimbursable grant to determine whether PharmAthene should report such reimbursements as revenue or as an offset to PharmAthene's expenses incurred. For the years ended December 31, 2012, 2011 and 2010, it recorded approximately $1.1 million, $0.7 million and $2.9 million, respectively, of costs reimbursed by the government as an offset to research and development expenses. Included in the 2010 grants was approximately $0.9 million in therapeutic discovery tax grants which was offset against research and development expense in 2010.

***Research and Development Expenses***

Research and development costs are expensed as incurred; advance payments are deferred and expensed as performance occurs. Research and development costs include salaries, facilities expense, overhead expenses, material and supplies, preclinical expense, clinical trials and related clinical manufacturing expenses, share-based compensation expense, contract services and other outside services.

***Share-Based Payments***

Under PharmAthene's LTIP options to purchase shares of PharmAthene's common stock may be granted to employees, consultants and directors at a price no less than the quoted market value on the date of grant. The LTIP also provides for awards in the form of stock appreciation rights, restricted or unrestricted stock awards, stock-equivalent units or performance-based stock awards.

PharmAthene accounts for share-based awards to employees and non-employee directors at fair value. The amount of compensation expense recognized using the fair value method requires PharmAthene to exercise judgment and make assumptions relating to the factors that determine the fair value of PharmAthene's stock option grants. PharmAthene uses the Black-Scholes model to estimate the fair value of

PharmAthene's option grants. The fair value calculated by this model is a function of several factors, including grant price, the risk-free interest rate, the expected term of the option and the anticipated volatility of the option.

***Intangible Assets and Goodwill***

PharmAthene continually assesses the realizability and recoverability of its intangible assets and goodwill. These assessments contain substantial judgment in determining the fair value of such assets and with respect to future usage of the assets and potential cash flows associated with them.

***Financial Instruments***

PharmAthene's financial instruments, and/or embedded features contained in those instruments, often are classified as derivative liabilities and are recorded at their fair values. The determination of fair value of these instrument and features requires estimates and judgments. Some of PharmAthene's stock purchase warrants are considered to be derivative liabilities due to the presence of net settlement features; the fair value of PharmAthene's warrants is determined based on the Black-Scholes option pricing model. Use of the Black-Scholes option-pricing model requires the use of unobservable inputs such as the expected term, anticipated volatility and expected dividends.

**Results of Operations**

***Three and Six Months Ended June 30, 2013 Compared to Three and Six Month Ended June 30, 2012***

During the six months ended June 30, 2013, there were no significant changes in critical accounting policies from those at December 31, 2012.

*Revenue*

PharmAthene recognized revenue of $4.3 million and $6.3 million during the three months ended June 30, 2013 and 2012, respectively. PharmAthene recognized revenue of $10.8 million and $12.5 million during the six months ended June 30, 2013 and 2012, respectively.

| | Three months ended June 30, | | |
|---|---|---|---|
| **Revenue ($ in millions)** | **2013** | **2012** | **% Change** |
| SparVax® | $ 3.5 | $ 6.1 | (42.6)% |
| rBChE bioscavanger | 0.8 | 0.2 | 300.0% |
| Valortim® | — | — | —% |
| Total Revenue | $ 4.3 | $ 6.3 | (31.7)% |

| | Six months ended June 30, | | |
|---|---|---|---|
| **Revenue ($ in millions)** | **2013** | **2012** | **% Change** |
| SparVax® | $ 8.6 | $ 11.3 | (23.9)% |
| rBChE bioscavanger | 2.2 | 1.1 | 100.0% |
| Valortim® | — | 0.1 | (100.0)% |
| Total Revenue | $ 10.8 | $ 12.5 | (13.6)% |

PharmAthene's revenue was derived primarily from contracts with the U.S. government for the development of SparVax® and PharmAthene's rBChE bioscavanger. PharmAthene's revenue in the three and six months ended June 30, 2013 changed from the comparable periods of 2012 primarily due to the following:

- Under its contract for the development of SparVax®, PharmAthene recognized approximately $3.5 million and $6.1 million of revenue for the three months ended June 30, 2013 and 2012, respectively, and approximately $8.6 million and $11.3 million of revenue for the six months ended June 30, 2013 and 2012, respectively. During the three and six months ended June 30, 2013 revenue was primarily attributable to ongoing stability testing of PharmAthene's Bulk Drug Substance (BDS) and Final Drug Product (FDP), BDS process characterization studies, a non-clinical rabbit dose ranging efficacy study and continued immunopotency assay development which included qualification and acceptance by the FDA. Milestone revenue for the six months ended June 30, 2013

was $0.07 million (no milestone revenue was recorded for the three months ended June 30, 2013). During the three and six months ended June 30, 2012 revenue for the SparVax® program was primarily attributable to the initiation of BDS process characterization to prepare for validation activities, further progression in the development of bioanalytical and analytical assays and the achievement of several contract milestones. Revenue for the six months ended June 30, 2012 was also attributable to work related to the manufacture of SparVax® FDP as well as activities related to the Phase II clinical trial that had been anticipated to commence later in 2012 but was suspended following the FDA's clinical hold in August 2012 and the completion of certain activities related to the development of analytical assays and ongoing stability programs for BDS and FDP. Milestone revenue received for the achievement of key technical milestones for the three and six months ended June 30, 2012 was $0.4 million and $1.3 million, respectively. The decrease in revenue for the three and six months ended June 30, 2013 compared to the same periods in 2012 is due to the decrease in milestone revenue, the completion of the majority of on-site work at PharmAthene's subcontractor's manufacturing facility, the postponement of certain assay validation work as a result of the FDA's clinical hold imposed in August 2012, as well as reduced activity relating to the potency assay, as PharmAthene replaced the assay it had been using with an improved assay, work on which will take place in future periods. With the lifting of the FDA's clinical hold in May 2013 on SparVax®, PharmAthene anticipates recognizing revenue starting later this year with respect to a planned Phase II clinical trial for that product candidate. However, PharmAthene anticipates that SparVax® revenues will remain lower in the second half of 2013 than they were for the corresponding period during 2012.

- Under its contract for PharmAthene's second generation rBChE bioscavanger, PharmAthene recognized approximately $0.8 million and $0.2 million of revenue for the three months ended June 30, 2013 and 2012, respectively, and approximately $2.2 million and $1.1 million of revenue for the six months ended June 30, 2013 and 2012, respectively. In the first three and six months of 2012 PharmAthene's activities related to clone generation and initiation of process development, while in the comparable 2013 periods PharmAthene continued with the process development work and focused on material generation and initiated non-clinical studies.

*Research and Development Expenses*

PharmAthene's research and development expenses were $3.4 million and $4.9 million for the three months ended June 30, 2013 and 2012, respectively. Its research and development expenses were $8.6 million and $9.6 million for the six months ended June 30, 2013 and 2012, respectively. These expenses resulted from research and development activities in all periods related primarily to PharmAthene's SparVax® and rBChE bioscavanger programs. Direct expenses included salaries and other costs of personnel, raw materials and supplies, and an allocation of indirect expenses. PharmAthene also incurred third-party costs, such as contract research, consulting and clinical development costs for individual projects. Research and development expenses for the three months ended June 30, 2013, were net of the receipt of approximately $0.5 million, the result of the settlement of a lawsuit filed against a vendor. Research and development expenses for the three months ended June 30, 2012 were net of cost reimbursements under certain of PharmAthene's government grants of $0.4 million. For the three months ended June 30, 2013, no cost reimbursements by the government were recorded as an offset to research and development expenses. Research and development expenses for the six months ended June 30, 2013 and 2012 were net of cost reimbursements under certain of PharmAthene's government grants of $0.02 million and $1.0 million, respectively.

Research and development expenses for the three and six months ended June 30, 2013 and 2012 were attributable to research programs as follows:

| | Three Months ended June 30, | | |
|---|---|---|---|
| **Research and Development Expenses ($ in millions)** | **2013** | **2012** | **% Change** |
| SparVax® and Valortim® | $ 3.3 | $ 4.6 | (28.3)% |
| rBChE bioscavenger | 0.6 | 0.3 | 100.0% |
| Internal research and development | (0.5) | — | —% |
| Total research and development expenses | $ 3.4 | $ 4.9 | (30.6)% |

| | Six Months ended June 30, | | |
|---|---|---|---|
| **Research and Development Expenses ($ in millions)** | **2013** | **2012** | **% Change** |
| SparVax® and Valortim® | $ 7.7 | $ 8.8 | (12.5)% |
| rBChE bioscavenger | 1.4 | 0.7 | 100.0% |
| Internal research and development | (0.5) | 0.1 | (600.0)% |
| Total research and development expenses | $ 8.6 | $ 9.6 | (10.4)% |

For the three and six months ended June 30, 2013, research and development expenses decreased $1.5 million and $1.0 million, respectively from the same periods in the prior year, primarily due to (i) the receipt in the 2013 period of approximately $0.5 million as a result of the settlement of a lawsuit filed against a vendor, and (ii) decreased costs related to PharmAthene's SparVax® program as a result of the fact that ongoing process characterization studies and non-clinical studies were nearing completion, the postponement of certain assay validation work, and reduced activity relating to the potency assay, as PharmAthene replaced the assay it had been using with an improved assay, work on which will take place in future periods. These reductions in cost were partially offset by increased costs in PharmAthene's rBChE bioscavanger program. With the lifting of the FDA's clinical hold in May 2013 on SparVax®, PharmAthene anticipates incurring costs starting later this year with respect to a planned Phase II clinical trial for that product candidate.

*General and Administrative Expenses*

General and administrative functions include executive management, finance and administration, government affairs and regulations, corporate development, human resources, legal, and compliance. For each function, PharmAthene may incur expenses such as salaries, supplies and third-party consulting and other external costs and non-cash expenditures such as expense related to stock option and restricted share awards. An allocation of indirect costs such as facilities, utilities and other administrative overhead is also included in general and administrative expenses.

Expenses associated with general and administrative functions were $2.3 million for the three months ended June 30, 2013 and $2.8 million for the three months ended June 30, 2012. The $0.5 million dollar decrease from the same period in the prior year, was principally due to reduced labor and associated share-based compensation costs and reduced professional and consulting and legal fees.

Expenses associated with general and administrative functions were $4.6 million for the six months ended June 30, 2013 and $5.7 million for the six months ended June 30, 2012. The $1.1 million dollar decrease from the same period in the prior year was principally due to reduced labor and associated share-based compensation costs and reduced professional and consulting and legal fees.

*Depreciation*

Depreciation expense was $41,854 for the three months ended June 30, 2013 and $76,448 for the three months ended June 30, 2012. Depreciation expense was $94,456 for the six months ended June 30, 2013 and $162,358 for the six months ended June 30, 2012.

*Other Income (Expense)*

Other income (expense) primarily consists of income on PharmAthene's cash and investments, interest expense on PharmAthene's debt and other financial obligations, changes in the fair value of PharmAthene's derivative financial instruments, foreign currency transaction gains or losses, and the gain on the disposal of property and equipment.

Other income was $256,563 for the three months ended June 30, 2013, compared to $717,794 in the comparable period in 2012, a decrease of $461,231. The decrease was primarily the result of a $470,985 decrease in unrealized gains related to the changes in fair value of PharmAthene's derivative instruments.

Other expense was $754,345 in the six months ended June 30, 2013, compared to $220,993 in the comparable period in 2012, an increase of $533,352. The increase was primarily the result of (i) a $385,100 increase in unrealized losses related to the changes in fair value of PharmAthene's derivative instruments (ii) $85,437 of additional interest expense in 2013 generated from its loans with GE Capital, and (iii) $66,626 gain in 2012 on the disposal of property and equipment.

*Income Taxes*

The provision for income taxes was $11,206 and $16,133 during the three months ended June 30, 2013 and 2012, respectively. The provision for income taxes was $20,949 and $166,538 during the six months ended June 30, 2013 and 2012, respectively. PharmAthene's provision for income taxes results from the difference between the treatment of goodwill for income tax purposes and for U.S. GAAP.

***Year Ended December 31, 2012 Compared to December 31, 2011***

*Revenue*

PharmAthene recognized revenue of $25.2 million and $24.3 million during the years ended December 31, 2012 and 2011, respectively. PharmAthene's revenue in 2012 was derived from contracts with the U.S. government for the development of its product candidates.

| | Year ended December 31, | | |
|---|---|---|---|
| **Revenue ($ in millions)** | **2012** | **2011** | **% Change** |
| SparVax | $ 22.9 | $ 19.3 | 18.7% |
| rBChE – AES | 1.8 | 0.7 | 157.1% |
| rBChE – Protexia | — | 0.6 | (100.0)% |
| Valortim | 0.5 | 3.7 | (86.5)% |
| Total Revenue | $ 25.2 | $ 24.3 | 3.7% |

PharmAthene's revenue changed in 2012 from 2011 primarily due to the following:

Under PharmAthene's contract for the development of SparVax®, it recognized approximately $22.9 million of revenue in 2012, an increase of $3.6 million (or 18.7%) from 2011. During 2012, revenue for PharmAthene's SparVax® program was primarily attributable to completion of FDP manufacture, the initiation of BDS Process Characterization, progression in the development of bioanalytical and analytical assays, the execution of non-clinical activities and the achievement of several contract milestones. During 2011, revenue was primarily attributable to activities related to the manufacturing platform for SparVax® and additional work performed to develop and qualify analytical and stability-indicating assays for characterization of the product. Milestone revenue for the achievement of key technical milestones was approximately $2.2 million and $3.5 million for the years ended December 31, 2012 and 2011, respectively.

In August 2012, PharmAthene received notification from the FDA that its SparVax® rPA anthrax vaccine program was placed on clinical hold. The FDA has requested additional stability data and information related to the stability indicating assays. PharmAthene provided supporting data and information to the FDA and engaged in discussions with that agency as well as PharmAthene's customer, BARDA, regarding the clinical hold. In May 2013 the FDA lifted the clinical hold. PharmAthene has obtained from BARDA funding and consent for the planned Phase II human clinical trial with SparVax®, which PharmAthene hopes to commence in the fourth quarter of 2013. As a result of the clinical hold, revenues for the first six months of 2013 under PharmAthene's SparVax® contract did not include those it otherwise would have generated had PharmAthene been able to commence the clinical trial and undertake other activities.

Under PharmAthene's contract with the DoD for the development of an AES for rBChE, its second generation rBChE bioscavanger, PharmAthene recognized approximately $1.8 million, representing an increase of approximately $1.1 million (or 157.1%) from 2011. Significant technical progress was made in the development of PharmAthene's second generation rBChE bioscavanger in 2012, including the establishment of

final clones, genetic stability and fed batch evaluation to establish the bioreactor conditions for manufacturing. On July 31, 2012, the DoD exercised a $2.5 million option to continue to fund work under this contract in 2013.

Under its NIAID contracts for the advanced development of Valortim®, PharmAthene recognized $0.5 million of revenue in 2012, a substantial decrease of $3.2 million (or 86.5%) from 2011 levels as a result of PharmAthene's 2007 contract with NIAID for Valortim® ending (in accordance with its terms) in the first quarter 2012. Additional government funding has not been awarded for Valortim®. There can be no assurance PharmAthene will be successful in obtaining additional financial support for this program.

*Research and Development Expenses*

PharmAthene's research and development expenses were $19.5 million and $21.2 million for the years ended December 31, 2012 and 2011, respectively. These expenses resulted from research and development activities related to SparVax®, rBChE bioscavanger and Valortim®. Research and development expenses include direct expenses (salaries and other costs of personnel, raw materials and supplies, contract research, consulting and clinical development costs) and an allocation of indirect expenses.

Research and development expenses for the years ended December 31, 2012 and 2011 were attributable to research programs as follows:

| | Year ended December 31, | | |
|---|---|---|---|
| **($ in millions)** | **2012** | **2011** | **% Change** |
| Anthrax therapeutic and vaccines | $ 18.3 | $ 18.8 | (2.7)% |
| Chemical nerve agent bioscavenger | 1.1 | 0.6 | 83.3% |
| Internal research and development | 0.1 | 1.8 | (94.4)% |
| Total research and development expenses | $ 19.5 | $ 21.2 | (8.0)% |

Research and development expenses for both 2012 and 2011 were net of cost reimbursements under certain of PharmAthene's government grants of $1.1 million and $0.7 million, respectively.

In 2012, research and development expenses decreased approximately $1.7 million from 2011, primarily due to a reduction in (i) indirect operating expenses including overhead and internal research and development, and (ii) direct costs related to PharmAthene's Valortim® program as a result of the completion in the first quarter of 2012 of work under PharmAthene's 2007 contract with NIAID, offset by higher direct SparVax® program expenses. As a result of the FDA clinical hold related to SparVax®, costs it recognized in the first six months of 2013 under PharmAthene's SparVax® contract did not include those PharmAthene would have incurred had it been able to commence the clinical trial and undertake other activities.

*General and Administrative Expenses*

General and administrative functions include executive management, finance and administration, government affairs and regulations, corporate development, human resources, legal, and compliance. For each function, PharmAthene may incur expenses such as salaries, supplies and third-party consulting and other external costs and non-cash expenditures such as expense related to stock option and restricted share awards. An allocation of indirect costs such as facilities, utilities and other administrative overhead is also included in general and administrative expenses.

Expenses associated with general and administrative functions were $11.6 million for 2012 and $14.3 million for 2011, an approximate 19% decrease. The decrease in general and administrative expenses from 2011 to 2012 was largely due to (i) a $2.3 million reduction in legal and professional expenses primarily related to the SIGA litigation and trial activities and (ii) a planned reduction in headcount, offset in part by a $1.4 million insurance recovery that was received in 2011.

*Depreciation Expense*

Depreciation expenses were approximately $0.3 million and $0.5 million for the years ended December 31, 2012 and 2011, respectively. The decrease was related to previously purchased assets being fully depreciated during the year ended December 31, 2012.

*Other Income (Expense)*

Other income in 2012 was $1.5 million, compared to $7.9 million in 2011, a decrease of $6.4 million. The decrease was primarily the result of (i) a $6.5 million difference in gains related to the changes in fair value of PharmAthene's derivative instruments, (ii) a $0.8 million gain in 2011 from the sale of Canadian assets held for sale, and (iii) approximately $0.3 million of additional interest expense in 2012 generated from PharmAthene's loans with GE Capital, offset by $1.2 million of income related to the realization of the cumulative translation adjustment upon the substantial liquidation of PharmAthene Canada, Inc. in July 2012.

*Income Taxes*

The provision for income taxes was approximately $0.2 million for the year ended December 31, 2012, compared to no provision in 2011. The provision for income taxes in 2012 resulted from the difference between the treatment of goodwill for income tax purposes and for U.S. GAAP.

***Year Ended December 31, 2011 Compared to December 31, 2010***

*Revenue*

PharmAthene recognized revenue of $24.3 million and $21.0 million during the years ended December 31, 2011 and 2010, respectively. Its revenue was derived primarily from contracts with the U.S. government for the development of PharmAthene's product candidates.

| | Year ended December 31, | | |
|---|---|---|---|
| **Revenue ($ in millions)** | **2011** | **2010** | **% Change** |
| SparVax | $ 19.3 | $ 11.7 | 65.0% |
| rBChE – AES | 0.7 | — | 100.0% |
| rBChE – Protexia | 0.6 | 5.8 | (89.7)% |
| Valortim | 3.7 | 3.0 | 23.3% |
| Other | — | 0.5 | (100.0)% |
| Total Revenue | $ 24.3 | $ 21.0 | 15.7% |

PharmAthene's revenue for the year ended December 31, 2011 changed from 2010 primarily due to the following:

Under PharmAthene's contract for the development of SparVax®, it recognized approximately $19.3 million in 2011, an increase of 65.0% from 2010 levels. The increase in revenue for the SparVax® program during 2011 is attributable to additional work in preparation and execution of the scale up campaign at PharmAthene's U.S.-based SparVax® bulk drug substance manufacturer as well as an increase in PharmAthene's billing rate under the contract. Additional activities related to the establishment of analytical and stability-indicating assays for characterization of the product. Of the revenue amounts set forth above, $3.5 million in 2011 and $1.8 million in 2010 represent substantive milestone payments that were tied to PharmAthene's successful achievement of certain technical activities.

Under the September 2007 contract for the advanced development of Valortim®, PharmAthene recognized approximately $3.7 million in 2011 a 23.3% increase from 2011 levels. Revenue in 2011 reflects both clinical and non clinical work following the release of the FDA partial clinical hold in December 2010. Final patient dosing in clinical trial was completed in April 2011 and the in-life portion of the trial ended in the third quarter 2011. Revenue in 2010 was largely attributable to reimbursement of costs related to clinical and non-clinical studies, including work in connection with the investigation related to the partial clinical hold and certain manufacturing-related activities.

Under the September 2006 contract for the advanced development of Protexia®, PharmAthene recognized approximately $5.8 million in the year ended December 31, 2010, of which $0.7 million in 2010 represent substantive milestone payments that were tied to PharmAthene's successful achievement of certain technical activities. The decline in revenue is attributed to completion of major development activities for this program in past years. In 2011, PharmAthene generated additional revenue of $0.7 million under the fixed price contract with the DoD for the development of the AES for rBChE, PharmAthene's nerve agent medical countermeasure, which was awarded in August 2011.

*Research and Development Expenses*

PharmAthene's research and development expenses were approximately $21.2 million and $20.9 million for the years ended December 31, 2011 and 2010, respectively. Research and development expenses for the years ended December 31, 2011 and 2010 were attributable to research programs as follows:

| | Year ended December 31, | | |
|---|---|---|---|
| **($ in millions)** | **2011** | **2010** | **% Change** |
| Anthrax therapeutic and vaccines | $ 18.8 | $ 15.2 | 23.7% |
| Chemical nerve agent protectants | 0.6 | 4.7 | (87.2)% |
| Recombinant dual antigen plague vaccine | — | 0.1 | (100.0)% |
| Internal research and development | 1.8 | 0.9 | 100.0% |
| Total research and development expenses | $ 21.2 | $ 20.9 | 1.4% |

For the year ended December 31, 2011, research and development expenses increased $0.3 million from the prior year. This change was primarily due to the increased technical activity and the achievement of key technical milestones on PharmAthene's SparVax® program and the completion of the Phase I Valortim® dose escalation clinical trial partially offset by a decrease in development expenses related to the clinical nerve agent protectants program as a result of the December 31, 2010 shut down of the Protexia® program.

Research and development expenses for the years ended December 31, 2011 and 2010 were net of cost reimbursements under certain of PharmAthene's government grants of $0.7 million and $2.9 million, respectively. Included in the 2010 grants were $0.9 million in therapeutic discovery tax grants.

*General and Administrative Expenses*

General and administrative expenses were approximately $14.3 million and $18.0 million for the years ended December 31, 2011 and 2010, respectively. The decrease in 2011 primarily resulted from a $3.0 million reduction in bad debt expense and a property loss insurance recovery of $1.4 million in 2011, partially offset by an increase in non-cash stock compensation expenses as well as taxes and other expenses. The bad debt expenses in 2010 consisted primarily of provisions associated with an invoice to PharmAthene's U.S. government customer for the work at Avecia as well as the wind down of the third generation anthrax vaccine program.

*Depreciation and Intangible Amortization (including impairment charges)*

Depreciation and amortization expenses were approximately $0.5 million and $5.7 million for the years ended December 31, 2011 and 2010, respectively. The decrease in 2011 is primarily a result of the impairment charge taken in December 2010 of approximately $4.6 million with the closing of PharmAthene's Canadian operations.

*Other Income (Expense)*

Other income (expense) in 2011 was a net income of $7.9 million, compared to a net expense of $11.3 million in 2010. Most of the change was due to (i) a significant reduction in interest expense of $5.9 million resulting from the conversion of PharmAthene's convertible notes in the fourth quarter of 2010, (ii) a significant change in the fair value of PharmAthene's derivatives instruments (a $5.5 million loss in 2010 compared to a $7.1 million gain in 2011) primarily as a result of the change in PharmAthene's stock price, and (iii) a $0.8 million gain on the sale of Canadian assets held for sale in 2011.

**Liquidity and Capital Resources**

*Overview*

In addition to monies paid under PharmAthene's development contract for SparVax®, PharmAthene's primary source of cash during the second quarter and first half of 2013 was provided from proceeds raised as a result of sales of shares of PharmAthene's common stock under the controlled equity offering arrangement, which PharmAthene commenced at the end of March 2013. PharmAthene's primary source of funding in 2012 were monies paid under PharmAthene's development contract for SparVax®. Under the terms of the Merger Agreement, PharmAthene is currently prohibited from using PharmAthene's controlled equity offering arrangement.

PharmAthene's future capital requirements will depend on many factors, including, the progress of PharmAthene's research and development programs; the progress of preclinical and clinical testing; the time and cost involved in obtaining regulatory approval; the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; changes in PharmAthene's existing research relationships; competing technological and marketing developments; PharmAthene's ability to establish collaborative arrangements and to enter into licensing agreements and contractual arrangements with others; and any future change in PharmAthene's business strategy, including the proposed merger with Theraclone. If the proposed merger is not completed, PharmAthene will reevaluate its strategic alternatives. PharmAthene's cash requirements could change materially as a result of shifts in PharmAthene's business and strategy. The need to raise additional capital will depend on many factors, including but not limited to, the completion of the proposed merger, PharmAthene's future cash requirements, future contract funding, the ongoing proceedings in PharmAthene's litigation with SIGA, the timing, amount, and profitability of sales of Arestvyr™, if any (including potentially the timing of SIGA's recognition of revenue related thereto) in the event the trial court awards PharmAthene a remedy tied to sales or profits of that product, and PharmAthene's ability to collect monies from SIGA in the event the trial court awards PharmAthene a remedy tied to sales or profits of Arestvyr™.

Historically, PharmAthene has not generated positive cash flows from operations. To bridge the gap between payments made to PharmAthene under PharmAthene's U.S. government contracts and grants and PharmAthene's operating and capital needs, PharmAthene has had to rely on a variety of financing sources, including the issuance of equity and equity-linked securities and proceeds from loans and other borrowings. On March 25, 2013, PharmAthene entered into a controlled equity offering arrangement pursuant to which it may offer and sell, from time to time, through a sales agent, shares of PharmAthene's common stock having an aggregate offering price of up to $15.0 million. As of June 30, 2013, aggregate gross sales for additional common stock of approximately $10.4 million remained available under the arrangement. Please see "— Financing Activities" below. For the foreseeable future, PharmAthene will continue to need these types of financing vehicles and potentially others to help fund PharmAthene's future operating and capital requirements; however, under the terms of the Merger Agreement with Theraclone, PharmAthene is currently prohibited from using the arrangement.

Due to the current economic environment, the U.S. government may be forced or choose to reduce or delay spending in the biodefense field, which could decrease the likelihood of future government contract awards, the likelihood that the government will exercise its right to extend any of its existing contracts with PharmAthene and/or the likelihood that the government would procure products from PharmAthene.

PharmAthene's unaudited condensed consolidated financial statements have been prepared on a basis which assumes that it will continue as a going concern and which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business and do not include any adjustments that might result if the carrying amount of recorded assets and liabilities are not realized.

***Cash Flows***

The following table provides information regarding PharmAthene's cash flows for the six months ended June 30, 2013 and 2012.

| | Six months ended June 30, | |
|---|---|---|
| | **2013** | **2012** |
| Net cash provided by (used in): | | |
| Operating activities | $ (234,987) | $(1,912,379) |
| Investing activities | (70,581) | 67,400 |
| Financing activities | 3,398,040 | 2,389,563 |
| Effects of exchange rates on cash | (4,080) | (4,434) |
| Total increase (decrease) in net cash | $3,088,392 | $ 540,150 |

The following table provides information regarding PharmAthene's cash flows for the years ended December 31, 2012, 2011 and 2010.

| | Year ended December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| Net cash provided by (used in): | | | |
| Operating activities | $(2,322,906) | $(7,808,553) | $(14,864,577) |
| Investing activities | 67,400 | 1,687,521 | 2,756,007 |
| Financing activities | 3,720,071 | 5,781,328 | 21,460,452 |
| Effects of exchange rates on cash | 181 | (208,852) | (240,122) |
| Total increase (decrease) in net cash | $ 1,464,746 | $ (548,556) | $ 9,111,760 |

*Sources and Uses of Cash*

Cash and cash equivalents were $15.8 million and $12.7 million at June 30, 2013 and December 31, 2012, respectively. Cash and cash equivalents were $12.7 million, $11.2 million and $11.8 million at December 31, 2012, 2011 and 2010, respectively. The $1.5 million increase at December 31, 2012 compared to December 31, 2011 was primarily attributable to the $2.5 million term loan, which PharmAthene closed in the first quarter 2012, and the $1.3 million borrowed under the revolving line of credit, partially offset by $2.3 million of cash used in operations. The $0.6 million decrease at December 31, 2011 as compared to December 31, 2010 was primarily due to the receipt of net proceeds of $5.8 million from a registered direct public offering of common stock and warrants, as well as $1.8 million related to the sale of assets in Canada, offset by $7.8 million of cash used in operations.

*Operating Activities*

Net cash used by operating activities was $0.2 million and $1.9 million for the six months ended June 30, 2013 and 2012, respectively.

Net cash used by operating activities during the six months ended June 30, 2013 reflects PharmAthene's net loss of $3.3 million, adjusted for $0.7 million for non-cash share-based compensation expense, $0.6 million for the increase in the fair value of derivative instruments and $0.2 million for other non-cash expenses. A decrease in receivables (billed and unbilled) of $1.3 million and an increase in accounts payable of $1.3 million was partially offset by a decrease in accrued expenses and other liabilities of $0.4 million and deferred revenue of $0.9 million. The increase in the fair value of the derivative instruments primarily relates to the change in PharmAthene's stock price from December 31, 2012 to June 28, 2013.

Net cash used in operations during the six months ended June 30, 2012 reflects PharmAthene's net loss of $3.4 million, adjusted for non-cash share-based compensation expense of $1.1 million, the increase in the fair value of derivative instruments of $0.2 million and other noncash expenses of $0.3 million. The increase in unbilled accounts receivable of approximately $1.8 million was partially offset by a decrease in accounts receivable of approximately $1.0 million. The increase in the fair value of the derivative instruments primarily relates to the change in PharmAthene's stock price from December 30, 2011 to June 29, 2012. Net cash used in operating activities was approximately $2.3 million, $7.8 million and $14.9 million for the years ended December 31, 2012, 2011 and 2010, respectively.

Net cash used in operations during the year ended December 31, 2012 reflects PharmAthene's net loss of $4.9 million, adjusted for non-cash share-based compensation expense of $1.9 million, the $1.2 million gain on the realization of the cumulative translation adjustment related to PharmAthene Canada, Inc., the decrease in the fair value of derivative instruments of $0.6 million and other noncash expenses of $0.6 million. The decrease in accounts receivable of approximately $2.0 million and increase in deferred revenue of approximately $0.9 million was partially offset by an increase in unbilled accounts receivable of approximately $1.1 million.

Net cash used in operations during the year ended December 31, 2011 reflects PharmAthene's net loss of $3.8 million, adjusted for the change in market value of non-cash derivative instruments of $7.1 million, the sale of the assets held for sale for a net gain of $0.8 million and depreciation of $0.5 million. Net cash used

in operations was also impacted by non-cash shared-based compensation expense of $2.6 million, a decrease in unbilled accounts receivable of $1.0 million, prepaid expenses and other current assets of $1.5 million, and accounts payable of $1.7 million.

Net cash used in operations during the year ended December 31, 2010 reflects PharmAthene's net loss of $34.8 million, adjusted for the change in market value of derivative instruments of $5.5 million, non-cash interest of $4.7 million, bad debt expense of $2.9 million, and non-cash shared-based compensation expenses of $2.5 million, decreases in unbilled accounts receivable of $5.4 million and in accounts receivable of $1.3 million, increases in depreciation and amortization of $5.7 million (including an impairment charge of $4.6 million) primarily associated with the write down of Canadian assets, and an increase in accounts payable of $1.2 million, and adjusted upward by a decrease in accrued expenses and other liabilities of $8.5 million.

*Investing Activities*

There were no significant investing activities during the six months ended June 30, 2013 and June 30, 2012. There were no significant investing activities for the year ended December 31, 2012. The net cash provided by investing activities was approximately $1.7 million for the year ended December 31, 2011 as compared to net cash provided of approximately $2.8 million for the year ended December 31, 2010. Investing activities in 2011 consisted primarily of the sale of the Canadian farm operations. Investing activities for 2010 related primarily to liquidating available for sale investments to meet working capital requirements.

*Financing Activities*

Net cash provided by financing activities was $3.4 million for the six months ended June 30, 2013, as compared to, $2.4 million provided by financing activities for the six months ended June 30, 2012.

Net cash provided by financing activities for the six months ended June 30, 2013 was principally the result of net proceeds received from sales of PharmAthene's stock under the controlled equity offering arrangement partially offset by the repayment the current portion of long-term debt and net repayment of the revolving credit agreement. The majority of PharmAthene's cash provided by financing for the six months ended June 30, 2012, was a result of PharmAthene entering into a senior fully-secured debt facility.

On March 25, 2013, PharmAthene entered into a controlled equity offering arrangement pursuant to which PharmAthene may offer and sell, from time to time, through a sales agent, shares of PharmAthene's common stock having an aggregate offering price of up to $15.0 million. Under the arrangement, the agent may sell shares by any method permitted by law and deemed to be an "at-the-market" offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on the NYSE MKT, on any other existing trading market for the Common Stock or to or through a market maker. PharmAthene is not obligated to sell any shares under this arrangement. PharmAthene is obligated to pay the agent a commission of 3.0% of the aggregate gross proceeds from each sale of shares. As of June 30, 2013, aggregate gross sales for additional common stock of approximately $10.4 million remained available under the arrangement. Under the terms of the Merger Agreement, PharmAthene is currently prohibited from using the arrangement.

Net cash provided by financing activities was $3.7 million for the year ended December 31, 2012 as compared to $5.8 million for the year ended December 31, 2011 and $21.5 million provided by financing activities for the year ended December 31, 2010.

The majority of PharmAthene's cash provided by financing for the year ended December 31, 2012, related to PharmAthene's debt arrangements with GE Capital, as described in Note 6 to PharmAthene's consolidated financial statements. The term loan of $2.5 million and approximately $1.3 million under the revolving line of credit were outstanding as of December 31, 2012.

Upon completion of the merger, Theraclone and PharmAthene expect that the combined company will establish a $15 million senior secured credit facility with MidCap Financial, Silicon Valley Bank and GE Healthcare Financial Services, Inc. as lenders, as reflected in a non-binding letter of intent. Such credit facility is expected to consist of a $5 million revolving loan facility and a $10 million term loan, each with a 42-month term. The revolving loan facility is anticipated to bear interest at an annual rate of one month LIBOR (subject to a 1.5% floor) plus a 5.0% margin and the term loan is anticipated to bear interest at an

annual rate of 9.0%. The combined company is expected to pay an origination fee of 1.0% of the revolving loan facility and 0.25% of the term loan, in addition to any unused line fees, prepayment fees, final payment fees and other administrative fees. The revolving loan facility and the term loan will be secured by the combined company's existing and after-acquired assets and will be cross-collateralized and cross-defaulted. The credit facility is also expected to contain representations, warranties, covenants, conditions and defaults customary for transactions of this type. The combined company expects to use the proceeds from the borrowings to refinance PharmAthene's existing senior fully-secured debt facility with GE Capital and Theraclone's credit facility with MidCap Financial and Silicon Valley Bank. The foregoing terms remain subject to final negotiation with the lenders, and the final terms of any senior secured credit facility may be different in whole or in part from the terms described above.

In 2011, PharmAthene raised net proceeds of approximately $5.8 million primarily from the issuance and sale of 1,857,143 shares of common stock and warrants to purchase up to an additional 371,423 shares of common stock at an exercise price of $3.50 per share.

Net cash provided from financing activities for the year ended December 31, 2010 was primarily the result of the proceeds from the issuance of common stock and warrants.

In April 2010, PharmAthene completed a public offering of 1,666,668 shares of PharmAthene's common stock at $1.50 per share and warrants to purchase an aggregate of 500,000 shares of PharmAthene's common stock at an exercise price of $1.89 per share, generating net proceeds of approximately $2.2 million.

In July 2010, PharmAthene completed a public offering of 2,785,714 shares of PharmAthene's common stock at $1.40 per share and warrants to purchase an aggregate of 1,323,214 shares of PharmAthene's common stock at an exercise price of $1.63 per share, generating net proceeds of approximately $3.5 million.

In November 2010, PharmAthene completed an underwritten public offering of 4,945,000 shares of PharmAthene's common stock at a price to the public of $3.50 per share, generating net proceeds of approximately $15.9 million.

As discussed in Note 8 to PharmAthene's consolidated financial statements, PharmAthene has issued and sold certain stock purchase warrants for fixed exercise prices that range from $1.61 to $3.97. Since these warrants are classified in stockholders' equity, any loss in value upon exercise as a result of the warrant being "in the money" will result in dilution to existing stockholders and such dilution will not be reflected in PharmAthene's consolidated statements of operations or consolidated statements of comprehensive loss.

**Off-Balance Sheet Arrangements**

PharmAthene does not have any off-balance sheet arrangements.

**Contractual Obligations**

The following are contractual commitments at June 30, 2013:

| Contractual Obligations[1] | Total | Less than 1 Year | 1 - 3 Years | 3 - 5 Years | More than 5 Years |
|---|---|---|---|---|---|
| Operating facility leases | $ 3,226,000 | $ 797,600 | $ 1,643,200 | $ 785,200 | $ — |
| Research and development agreements | 4,144,000 | 4,138,000 | 6,000 | — | — |
| Term loan, principal payments only | 2,250,001 | 999,996 | 1,250,005 | — | — |
| Total contractual obligations | $ 9,620,001 | $ 5,935,596 | $ 2,899,205 | $ 785,200 | $ — |

(1) This table does not include any royalty payments relating to future sales of products subject to license agreements PharmAthene has entered into in relation to its in-licensed technology, as the timing and likelihood of such payments are not known. In addition, the table does not include the final payment fee of $75,000 on the term loan, which is being accrued and expensed over the term of the agreement, using the effective interest method, or the debt discount, which is being amortized over the term of the agreement. The debt discount and final payment accrual at June 30, 2013 were $32,214 and $39,810 respectively.

The following are contractual commitments at December 31, 2012:

| Contractual Obligations[1] | Total | Less than 1 Year | 1 - 3 Years | 3 - 5 Years | More than 5 Years |
|---|---|---|---|---|---|
| Operating facility leases | $ 3,631,800 | $ 809,400 | $ 1,619,300 | $ 1,203,100 | $ — |
| Research and development agreements | 7,252,600 | 7,252,600 | — | — | — |
| Term loan | 2,500,000 | 749,997 | 1,750,003 | — | — |
| Total contractual obligations | $ 13,384,400 | $ 8,811,997 | $ 3,369,303 | $ 1,203,100 | $ — |

(1) This table does not include any royalty payments relating to future sales of products subject to license agreements PharmAthene has entered into in relation to its in-licensed technology, as the timing and likelihood of such payments are not known. In addition, the table does not include the final payment fee of $75,000 on the term loan, which is being accrued and expensed over the term of the agreement, using the effective interest method or the debt discount, which is being amortized over the term of the agreement. The debt discount and final payment accrual at December 31, 2012 were $45,895 and $25,278 respectively.

## QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT THE MARKET RISK OF PHARMATHENE

PharmAthene's exposure to market risk is currently confined to PharmAthene's cash and cash equivalents and PharmAthene's revolving line of credit. PharmAthene currently does not hedge interest rate exposure or foreign currency exchange exposure. PharmAthene has not used derivative financial instruments for speculation or trading purposes.

PharmAthene's current operations in foreign countries are minimal. PharmAthene has closed PharmAthene's active operations in Canada and maintains only nominal operations in the United Kingdom. A 10% change in exchange rates (against the U.S. dollar) would not have a material impact on its earnings, fair values or cash flow.

Because of the short-term maturities of PharmAthene's cash and cash equivalents, PharmAthene does not believe that an increase in market interest rates would have a significant impact on its realized value. PharmAthene's term loan with GE Capital is at a fixed 10.14% rate. Because of the fixed rate, a change in market interest rates would not have a material impact on interest expense associated with the loan. The interest rate on the revolving line of credit is variable; therefore, a 1% increase in market interest rates above the interest rate floor of 1.5%, would increase interest expense associated with the line by $50,000 if the maximum amount of the line ($5.0 million) was drawn for a full year.

The change in fair value of PharmAthene's derivative instruments is calculated utilizing the Black-Scholes model; therefore, a 10% increase/decrease in the closing price of PharmAthene's common stock at June 30, 2013, would have resulted in a change in fair value of derivative instruments and PharmAthene's earnings of approximately $0.3 million.

## EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

### PharmAthene's Retiring Directors and Executive Officers

Set forth below is information, as of October 4, 2013, regarding each current director of PharmAthene who is not expected to continue to serve as director of PharmAthene after the merger;

| Name | Age | Position |
|---|---|---|
| Joel W. McCleary* | 64 | Director |
| Jeffrey W. Runge, M.D.* | 57 | Director |
| Steven St. Peter, M.D.* | 46 | Director |

* Independent Director.

**Joel W. McCleary**. Mr. McCleary has served as a member of the Board of Directors since August 3, 2007 and from inception to August 3, 2007 was Chairman of the Board of Directors of former PharmAthene. Mr. McCleary is founding member of Four Seasons Ventures LLC founded in 2005. Mr. McCleary is the founder and Chairman of Q Global International, an organization which provides close protection services for global leaders against the threat of assassination or incapacitation from chemical, biological and radiological threats. Prior to 2005, Mr. McCleary has served as a White House Aide, Treasurer of the Democratic Party, President of the Sawyer-Miller Group International, and President of the Institute for Asian Democracy. He has served as a consultant to the Department of State. He is a co-founder and former board member of Raydiance Inc. In 2012, Mr. McCleary joined the board of advisors of Guggenheim International, a subsidiary of Guggenheim Partners LLC, a global diversified financial services firm. Guggenheim International is an organization dedicated to building cross-border strategic partnerships and providing solutions to sovereign, institutional, corporate, and high-net-worth clients. Mr. McCleary received a B.A. degree from Harvard University. Mr. McCleary was chosen to serve as a director of PharmAthene primarily because of his impressive public service record in a variety of governmental and quasi-governmental organizations, enabling him to offer valuable guidance to the Board of Directors and PharmAthene with respect to PharmAthene's government strategy.

**Jeffrey W. Runge, M.D.** Dr. Runge has served as a member of the Board of Directors since December 2009. Dr. Runge is a Principal at The Chertoff Group, a firm providing advisory services in business risk management, homeland security and homeland defense. He is also the President and founder of Biologue, Inc., which provides consulting in biodefense, medical preparedness and injury prevention and control. From 2001 through August of 2008, Dr. Runge served in the Bush administration, first as the head of the National Highway Traffic Safety Administration, and, beginning in September 2005, as the DHS' first Chief Medical Officer. Dr. Runge founded the DHS Office of Health Affairs in 2007 and was confirmed by the Senate as DHS' first Assistant Secretary for Health Affairs in December of 2007. Dr. Runge also served as Acting DHS Undersecretary for Science and Technology from February through August 2006. In his role at DHS, Dr. Runge oversaw the operations of the department's biodefense activities, medical preparedness and workforce health protection, including managing DHS' role in Project BioShield, working with the various federal departments on medical countermeasure assurance. Prior to joining DHS, Dr. Runge was Assistant Chairman of the Department of Emergency Medicine at the Carolinas Medical Center in Charlotte, NC, from 1984 through 2001. Dr. Runge earned his medical degree from the Medical University of South Carolina and his undergraduate degree from the University of the South. Dr. Runge was chosen to serve as a director of PharmAthene because of his invaluable background in the public sector, particularly his experience in the Bush administration as a founder of the DHS Office of Health Affairs, as well as his practical experience in the medical field.

**Steven St. Peter, M.D.** Dr. St. Peter has served as a member of the Board of Directors since August 3, 2007 and from October 2004 to August 3, 2007 was a member of the Board of Directors of former PharmAthene. Dr. St. Peter is President, CEO and Director of Aratana Therapeutics, an animal health company, a position he assumed in September 2012. Dr. St. Peter was employed by MPM Capital from 2004 to May 2012, and he was a Managing Director based in the Boston office. His investment scope included both venture and buyout transactions across the pharmaceuticals and medical technology industries. He has previous investment experience from Apax Partners and The Carlyle Group. Dr. St. Peter was previously an

assistant Clinical Professor of Medicine at Columbia University. He completed his Doctor of Medicine at Washington University and his residency and fellowship at the Hospital of the University of Pennsylvania. Prior to his medical training, he was an investment banker at Merrill Lynch. He also holds an MBA from the Wharton School of the University of Pennsylvania and a B.A. in Chemistry from the University of Kansas. He is on the Board of Directors of the New England Venture Capital Association and he is also a director of Aratana Therapeutics, Inc. His previous board experience includes Omrix Biopharmaceuticals, Helicos Biosciences Corporation, EKR Therapeutics, Inc., Proteon Therapeutics, Inc., Rhythm Pharmaceuticals, Inc., Syndax Pharmaceuticals, Inc. and Xanodyne Pharmaceuticals, Inc. Dr. St. Peter was chosen to serve as a director of PharmAthene because of his diverse background as a venture capital investor, investment banker, professor of medicine and director of several healthcare companies, which provided him with a unique perspective in serving on PharmAthene's Board of Directors.

Set forth below is information, as of October 4, 2013, regarding each of PharmAthene's executive officers who is not expected to continue to serve as executive officer of PharmAthene after completion of the merger:

| Name | Age | Office |
|---|---|---|
| Eric I. Richman* | 52 | President and Chief Executive Officer |
| Linda L. Chang | 47 | Senior Vice President, Chief Financial Officer |

* Mr. Richman is expected to serve as a member of the Board of Directors of PharmAthene after completion of the merger. His biography appears in the section entitled "MANAGEMENT OF THE COMBINED COMPANY—Non-Employee Directors."

**Linda L. Chang**. Ms. Chang assumed the position of Senior Vice President, Chief Financial Officer of PharmAthene in November 2011. Ms. Chang had been employed for the last 11 years at Human Genome Sciences, Inc., most recently as Senior Director of Finance. Prior to serving at Human Genome Sciences, Ms. Chang was an Associate at Booz Allen & Hamilton. Earlier in her career, Ms. Chang worked at Grant Thornton, LLP and Otsuka America Pharmaceuticals, Inc. Ms. Chang is a Certified Public Accountant. She earned an MBA as well as a Master of Accountancy degree from the University of Georgia and a B.S. from the University of California, Riverside.

**PharmAthene's Executive Compensation**

**PharmAthene's Compensation Discussion and Analysis**. This section discusses the principles underlying PharmAthene's executive compensation decisions. It provides qualitative information on the factors relevant to these decisions and the manner in which compensation is awarded to PharmAthene's Named Executive Officers.

**PharmAthene's Compensation Objectives**

The objectives of the Compensation Committee, which PharmAthene also refers to simply "the committee," in establishing its compensation policy for executive officers and other employees are to:

- compensate competitively in order to attract, retain and motivate a highly competent executive team dedicated to achieving PharmAthene's goals and strategic plans, which are designed to result in long-term growth in stockholder value;
- tie individual compensation to individual performance and the success of PharmAthene; and
- align officers' and selected eligible employees' interests with those of PharmAthene and its stockholders by providing long-term compensation opportunities through participation in PharmAthene's equity-based incentive compensation plan and/or any successor or other long-term incentive compensation plans as may be adopted from time to time.

The market for talented individuals in the biotechnology industry is highly competitive. The committee considers peer groups, survey data and, from time to time, advice from independent compensation consultants when determining PharmAthene's compensation structure. The committee has structured compensation between base salary and cash bonuses such that approximately 40% of PharmAthene's CEO's and 25% of its

other senior executives' total cash compensation is at risk. Non-cash compensation for executive officers is structured to provide a reward for corporate and individual performance. The committee believes that this approach provides an appropriate incentive that aligns the executive officer compensation with PharmAthene's long-term strategic and performance goals, and also retains and motivates key executive officers.

**Overview and Role of the Compensation Committee**

The Compensation Committee reviews and approves PharmAthene's compensation policies. The specific roles of the Committee include:

- recommending to the Board, in consultation with senior management of PharmAthene, (i) the corporate goals and objectives relevant to compensation of officers and directors and (ii) the compensation and benefits philosophy and strategy for PharmAthene;
- recommending performance measures and, if applicable, goals for measuring performance in consultation with senior management of PharmAthene;
- assessing the performance of the Chairman of the Board, CEO and President;
- evaluating competitive pay levels for key executives of other biodefense and life sciences companies based on industry analyses;
- recommending to the board for approval compensation for the CEO and President, including salary, bonus, restricted securities, stock options, and, if applicable, any supplemental compensation or benefit arrangements;
- making determinations with respect to the grant of stock options and restricted securities under the 2007 Plan to all officers of PharmAthene, other than the CEO and President, and report to the board on such determinations at the Board's subsequent meeting;
- making determinations with respect to the grant of stock options and restricted securities under the 2007 Plan to all employees who are not officers of PharmAthene and to consultants eligible to receive such grants under such plan, or, at the committee's sole discretion, delegate such responsibility to the CEO and President, subject to any limitations it shall impose from time to time;
- to the extent not covered by the determinations above, reviewing and approving compensation programs applicable to officers and other selected employees and, upon recommendation of the Chairman of the Board and CEO and President, reviewing and recommending the Board's approval of individual compensation awards for the officers;
- recommending to the board for approval the compensation for directors, including retainer, committee chairman's fees, the grant of restricted securities or stock options and other similar items, as appropriate; and
- overseeing the preparation of, and approving, this section of PharmAthene's annual proxy statement.

**Compensation Process**

The implementation of the compensation philosophy is carried out under the supervision of the Compensation Committee. The compensation for PharmAthene's President and Chief Executive Officer is approved by the Board of Directors after the committee has provided its analysis and recommendation. The compensation for the other executive officers is determined by the committee. Management, under guidelines approved by the committee, makes decisions regarding compensation of non-executive officer employees.

The Compensation Committee charter requires the committee to meet at least once per year, and in practice the committee meets several times per year. Typically late in the fourth quarter or early in the first quarter of the following year, annual executive officer performance reviews and life sciences company survey compensation data are reviewed and base salary adjustments, bonus payouts and annual equity grants approved. Annual performance goals are typically finalized in the first quarter.

***Compensation Survey Data, Consultants and Peer Group***

The Compensation Committee consults publicly available compensation survey data provided by third party vendors, such as Radford, for similarly sized life sciences companies (i.e., with between 50 and 149 employees). To evaluate PharmAthene's competitive position in the industry related to executive compensation, the committee has historically reviewed and analyzed survey data summarizing the compensation packages, including base salary levels, cash bonus awards and equity awards offered by other similarly sized life sciences companies. The committee believes selection use of these data on an annual basis provides useful long-term trend data for companies that compete with PharmAthene for talent.

The committee has the authority to engage the services of independent compensation consultants, and it has done so from time to time in the past. However, the committee did not engage a third-party compensation consultant to assist the committee in establishing 2012 overall compensation levels, specific compensation awards or annual performance goals for 2013. Most recently, the committee engaged a third-party compensation consultant, James Reda & Associates, to assist it in designing and adopting the change in control compensation policy for executives. Specifically, the committee looked at a peer group that consisted of: Somaxon Pharmaceuticals, Inc., Aelous Pharmaceuticals, Inc., Soligenix, Inc., Neurocrine Biosciences, Inc., Javelin Pharmaceuticals, Inc., SIGA Technologies, Inc., CombinatoRx, Incorporated (now known as Zalicus Inc.), Trubion Pharmaceuticals, Inc., Cypress BioScience, Inc., BioSphere Medical, Inc., Dynavax Technologies Corp., Osiris Therapeutics, Inc., Verenium Corporation, Xoma Ltd., ZymoGenetics Inc., and Emergent Biosolutions, Inc.

**Components of Compensation**

PharmAthene's compensation for executives consists of five components: base salary, cash bonuses, equity awards, and retirement benefits as provided under PharmAthene's 401(k) plan. PharmAthene's President and Chief Executive Officer annually reviews the performance and contributions of each executive officer (other than himself) and reports the results of such reviews to the Compensation Committee. PharmAthene's Board of Directors annually reviews the performance and contributions of the President and Chief Executive Officer.

Using significant discretion, the committee considers each executive's performance, contributions, responsibilities, experience, and qualifications when determining the appropriate compensation level for each executive in light of the relevant compensation survey data. The components of PharmAthene's executive officer compensation are described below.

***Base Salary***

The base salary component of compensation is designed to compensate executive officers competitively at levels necessary to attract and retain qualified executives in the life sciences industry. As a general matter, the base salary for each executive officer is based on the scope of each executive's responsibilities, as well as his/her qualifications, breadth of experience, performance record, and depth and breadth of applicable functional expertise. Base salaries of the executive officers are reviewed by the committee annually in light of personal and Company goal attainment, executive officer performance reviews and compensation survey data. Adjustments to each executive's base salary are based upon individual performance, changes in the general level of base salaries of persons in comparable positions within the industry, as indicated by compensation survey data, and the average merit salary increase for such year for all employees of PharmAthene established by the committee, as well as other factors the committee judges to be pertinent during an assessment period. In making base salary decisions, the committee exercises its discretion to determine the appropriate weight to be given to each of these factors. Adjustments may be made during the fiscal year for promotions, highly urgent competitive reasons, superior performance in response to changed or challenging circumstances and other special circumstances.

The Named Executive Officer annualized base salaries for 2012 were as follows: Mr. Richman, President and Chief Executive Officer, $442,900; Dr. Thomas Fuerst, Executive Vice President and Chief Scientific Officer, $319,642; Mr. Karp, Senior Vice President and General Counsel, $309,000; Ms. Chang, Senior Vice President and Chief Financial Officer, $300,000; Ms. Cook, Senior Vice President, Policy & Government Affairs, $283,069. On October 19, 2012, Dr. Fuerst resigned his position as a Company employee and entered

into a Separation Agreement and General Release and Waiver. Pursuant to that agreement, among other benefits Dr. Fuerst was paid six months base salary as severance.

Effective January 1, 2013, the NEO's annualized base salaries are as follows: $456,187 for Mr. Richman; $320,588 for Mr. Karp; $318,000 for Ms. Chang; and $294,392 for Ms. Cook. These adjustments to base salaries were established on expected market trends for merit increases and each officer's base salary relative to his peer group. This resulted in an approximate three percent increase in base salary for these individuals except for Ms. Chang, whose base salary had an additional increase due to her base salary being below the peer group.

***Cash Bonuses***

PharmAthene's Compensation Committee has adopted a bonus program, or the Bonus Program, for PharmAthene's executive officers and other employees to be identified from time to time by the Chief Executive Officer. The Bonus Program was established to provide for the payment to members of management and identified employees of a bonus that is linked to achievement of key corporate performance objectives and, in the case of executives, also to the achievement of key personal objectives. The goal of the Bonus Program is to reward personnel by providing further compensation to members of management and identified employees based on the achievement of specified annual goals that the Compensation Committee and the Board of Directors believe correlate closely with the growth of long-term stockholder value. PharmAthene believes that the Bonus Program also promotes greater communication among employees and fosters the appropriate feedback for enhanced productivity and effectiveness.

The Bonus Program is intended to be applicable to the following members of management: the President and Chief Executive Officer, the Senior Vice President and Chief Financial Officer, the Senior Vice President & General Counsel, the Senior Vice President, Policy & Government Affairs, and the Senior Vice President — Regulatory Affairs and Quality. The Chief Executive reviews and approves the annual performance objectives of each of his senior executives. Annually and based upon the recommendations of the Chief Executive Officer, the Compensation Committee approves (i) a target bonus pool amount, (ii) a target bonus payout for each executive in the Bonus Program, (iii) the corporate achievement percentages and any other one-off bonus adjustments that will be used to determine the corporate performance component of the bonus based upon a comparison of PharmAthene's financial and operational performance for the fiscal year against the approved financial and operating plan for the fiscal year, and (iv) the relative weight or importance of the corporate performance objectives and the personal performance objectives. Annually, the Compensation Committee reviews PharmAthene's actual financial and operational performance and each executive's personal performance to determine the appropriate adjustment to the executive's target bonus.

*Determining the annual target bonus pool*. In each fiscal year, the committee determines a target bonus pool for that fiscal year, how much of that pool should be allocated to executive officers and how much should be allocated to all other personnel. This pool will be a target which may be revised by the committee in its discretion.

For fiscal year 2012, the target bonus pool was equal to the approximate sum of (i) 60% of the base salary for the Chief Executive Officer, (ii) 30% of the aggregate base salary of the other executives and certain other key employees, and (iii) 10% of the aggregate base salary of all other employees of PharmAthene. The target bonus pool for the Chief Executive Officer and other senior executives was based on bonus targets set forth in the employment agreements for those individuals.

The pool was divided among the relevant executives with reference to the achievement of specific personal and corporate performance targets. Generally, the Compensation Committee has the discretion to award more or less than the target bonus payout; and any particular executive or key employee may be awarded a bonus that is greater or less than 30% of their base salary and any non-executive employee may be awarded a bonus that is greater or less than 10% of their base salary. The board has the discretion to award more or less than the target bonus payout (i.e., 60% of base salary) for the CEO. Finally, the pool may be increased at the discretion of the committee to the extent new executive officers and other employees may be hired during the year.

*Determining the annual target bonus payout*. During each fiscal year, the Compensation Committee determines the target bonus payout for each executive in the Bonus Program taking into account any terms regarding bonuses which may be contained in each executive's employment agreement. The board will consider all factors that it deems relevant to such determination, including, but not limited to, the recommendations of PharmAthene's Chief Executive Officer (except with respect to his own bonus), competitive market conditions, and the Board's assessment of the level of growth reflected in PharmAthene's financial performance objectives. The executives are not subject to a maximum bonus payout. Generally, bonuses will be paid in cash.

*Determining the corporate achievement percentages and corporate performance objectives.* In each fiscal year, the Compensation Committee reviews with the executive team and establishes corporate performance objectives for the fiscal year that will apply to all senior executives, including the Chief Executive Officer, and achievement percentages that will be used to evaluate the portion of the bonus applicable to each executive based upon PharmAthene's financial and operational performance.

The Compensation Committee established with management the following corporate performance objectives for 2012, with percentage weighting reflecting the approximate percentage value to be placed upon the achievement of each target in the determination of whether the overall corporate performance objectives have been met:

- Initiate human clinical trial for SparVax® (25%);
- Achieve contracted technical program milestones (25%);
- Annual financial performance in line with board approved budget (30%); and
- Continued strong performance under existing SparVax® development contract as reflected in customer feedback (20%).

The committee determined that PharmAthene had achieved 55% of these goals in 2012.

The Compensation Committee established with management the following corporate performance objectives for 2013, with percentage weighting reflecting the approximate percentage value to be placed upon the achievement of each target in the determination of whether the overall corporate performance objectives have been met:

- Remove clinical hold for SparVax® (25%);
- Annual financial performance in line with board approved budget (15%);
- Secure additional funding for SparVax® program (25%); and
- Broaden product candidate pipeline (35%).

*Determining personal performance objectives*. Each executive's annual personal performance objectives are agreed upon by the executive and approved by PharmAthene's Chief Executive Officer (except with respect to his own personal objectives). The personal performance objectives of PharmAthene's Chief Executive Officer are the corporate performance objectives set forth above.

*Determining relative weight of corporate performance objectives and personal objectives*. The Compensation Committee also evaluates the relative weight or importance that will be placed on achievement of the corporate performance objectives and the personal performance objectives.

*Measuring performance*. After the end of the fiscal year, the Compensation Committee measures PharmAthene's actual performance against its corporate performance objectives and considers each executive's personal performance against his or her personal performance objectives to determine the appropriate bonus allocable to each executive officer from the target bonus pool. The committee considers the executive's overall contribution to PharmAthene's success and, in the case of executives other than the Chief Executive Officer, the recommendation of the Chief Executive Officer. In determining the appropriate bonuses, the Compensation Committee also considers other performance considerations related to unforeseen events occurring during the

fiscal year. The committee has discretion to award a bonus that is more or less than the amount determined by the procedures outlined above or to award no bonus at all.

***Equity Awards***

The committee provides PharmAthene's executive officers with long-term incentive compensation through grants of stock options and/or restricted stock awards, or RSAs, under the 2007 Plan. The 2007 Plan creates a strong link to PharmAthene's long term financial and equity market performance, create an ownership culture, and closely align the interests of PharmAthene's executive officers with the stockholders. The committee believes that these grants directly motivate an executive to maximize long-term stockholder value and create an effective tool for incentivizing and retaining those executives who are most responsible for influencing stockholder value. The grants also utilize vesting periods that encourage key executives to continue in the employ of PharmAthene. Among other things, the committee considers individual performance of the executive officer, the anticipated contribution of the executive officer to the attainment of PharmAthene's long-term strategic performance goals, and retention and motivation of key executives in determining equity awards. The equity awards for each year are set to enable PharmAthene to attract, motivate, and retain highly skilled executives. Long-term incentives granted in prior years may be taken into consideration, but do not play a significant role in current year determinations.

It has been PharmAthene's practice to make equity-based awards to its executives on an annual basis. Annual non-qualified stock option awards to executives typically vest over four years and have a ten year term. In addition, from time to time, PharmAthene has granted additional stock options to specific executive officers for promotions, superior performance in response to changed or challenging circumstances and other special circumstances. All stock option awards are priced based upon the closing price of PharmAthene's common stock on the date of grant, which is also the approval date, by the committee or Board of Directors. From time to time PharmAthene has also granted RSAs, with varying vesting periods. The Company does not maintain any equity ownership guidelines for its executive officers.

On December 3, 2012, the Compensation Committee approved stock option awards to the executive officers, other than the CEO, under the 2007 Plan. The board approved a stock option award to the CEO on December 12, 2012 under the 2007 Plan. The stock option awards were determined based on individual performance and contribution to long-term strategic and performance goals and as well as retention and motivation of the Named Executive Officers. The individual grants of stock options to executive officers were: Mr. Richman 150,000 stock options; Mr. Karp 65,000 stock options; Ms. Chang 75,000 stock options; and Ms. Cook 65,000 stock options. These stock options vests 25% per year starting on the first anniversary of the date of grant.

***Retirement Benefits***

The terms of PharmAthene's 401(k) Savings Plan, or the 401(k) Plan, provide for executive officer and broad-based employee participation on the same general terms. Under the 401(k) Plan, all Company employees were formerly eligible to receive from PharmAthene matching contributions that vested 25% per year over four years. The Company's basic matching contribution for the 401(k) Plan was suspended on September 1, 2010 and has been reinstated as of July 1, 2013. The Company made no discretionary contributions to the 401(k) Plan in 2012.

***Severance Agreements and Other Benefits***

Executive officers are eligible to participate in PharmAthene's employee benefit plans on the same terms as all other full-time employees. These plans include medical, dental and life insurance. In addition to the benefits available to all employees, PharmAthene provides its executive officers with certain additional benefits that PharmAthene believes reflect market standards and are reasonable and necessary to attract and/or retain each of PharmAthene's executive officers and allow the executive officers to realize the full benefit of the other elements of compensation PharmAthene provides. These benefits include a monthly travel allowance and eligibility for four weeks of vacation from the date of hire.

In addition, executive officers are eligible to receive severance benefits in connection with terminations of employment due to death, disability, or termination without cause or constructive termination (including

following a change-in-control) as set forth below and more fully described in the section entitled "THE MERGER—Interests of PharmAthene's Directors and Officers in the Merger—Potential Payments upon Termination or Change of Control" above. The Compensation Committee believes that the executive severance arrangements reflect current market standards and severance benefits competitive with those provided by PharmAthene's peer group. The committee believes that to continue to retain the services of PharmAthene's key executive officers, it is important to provide them with some income and benefit protection against an involuntary termination of employment.

In the event that an executive dies or is disabled, the executive has the right to receive the unpaid portion of the base salary as of the date of termination, payment of the executive's accrued but unpaid amounts and extension of applicable benefits in accordance with the terms of any incentive compensation, retirement, employee welfare or other employee benefit plans or programs of PharmAthene in which the executive is then participating in accordance with the terms of such plans or programs, and reimbursement for any expenses for which the executive shall not have theretofore been reimbursed.

Upon the termination of an executive's employment without cause or for "Good Reason," in addition to the payments set forth in the immediately preceding paragraph, the executive has the right to receive base salary continuation for 6 months (12 months in the case of Mr. Richman and 9 months in the case of Ms. Chang, with certain adjustments intended as described under "— PharmAthene's Executive Compensation"). Base salary continuation is conditioned on the executive entering into a general release with terms reasonably satisfactory to PharmAthene.

Under a severance plan adopted in May 2012, PharmAthene's Board of Directors approved the following severance plan for PharmAthene's executives in the event of termination of an executive's employment without cause or for "Good Reason" in the event of a "change of control." For PharmAthene's President and Chief Executive Officer, the plan includes: (a) payments equal to 24 months of base salary; (b) two times target annual cash bonus; (c) health and other benefits continuation for 24 months; and (d) an excise tax gross up. For the other executives, the plan includes (a) base salary continuation for 18 months; (b) 1.5 times target annual cash bonus; (c) health and other benefits continuation for 18 months; and (d) in lieu of an excise tax gross up, a "best executive choice" provision under which the executive can elect to reduce his or her severance payment to the extent necessary to avoid triggering excise tax on such payment. PharmAthene's Board of Directors can modify or terminate the severance plan at any time, and the board has taken action to terminate the Severance Plan upon the closing of the merger. Please see the section "— PharmAthene's Executive Compensation" for a description of the applicability of the Severance Plan to the merger.

The committee believes that in order to continue to retain the services of PharmAthene's key executive officers and focus their efforts on stockholder interests when considering strategic alternatives, it is important to provide them with enhanced income and benefit protection against loss of employment in connection with a change-in-control of PharmAthene's company and thereby align the interests of PharmAthene's stockholders and PharmAthene's executive officers.

***Say-on-Pay Vote***

Having qualified in prior years as a "smaller reporting company," PharmAthene was previously not required to submit its executive compensation policies and decisions to a non-binding stockholder "say-on-pay" vote and has not done so.

***Tax Considerations***

***Section 162(m) Policy***

The Compensation Committee has found it unnecessary to consider the applicability of Section 162(m) of the Code because no executive officer receives compensation in excess of one million dollars.

**Summary Compensation Table**

The following Summary Compensation Table sets forth, for the stated fiscal years, all compensation awarded to, earned by, or paid to PharmAthene's Named Executive Officers.

| Name and Principal Position | Year | Salary ($) | Bonus ($)[1] | Stock Awards ($)[2] | Option Awards ($)[2] | Non-equity Incentive Plan Compensation ($)[1] | All Other Compensation | Total ($) |
|---|---|---|---|---|---|---|---|---|
| Eric I. Richman | 2012 | 442,900 | 146,157 | | 129,915 | | | 718,972 |
| President and Chief Executive Officer, Director[3] | 2011 | 435,000 | 93,560 | 131,000 | 225,312 | | | 884,872 |
| | 2010 | 334,421 | | 136,850 | 1,563,803 | 105,000 | 9,000 | 2,149,074 |
| Linda L. Chang | 2012 | 300,000 | 71,100 | | 61,695 | | | 432,795 |
| Senior Vice President and Chief Financial Officer[4] | | | | | | | | |
| Jordan P. Karp, Esq. | 2012 | 309,000 | 67,671 | | 53,469 | | 12,000 | 442,140 |
| Senior Vice President and General Counsel[5] | 2011 | 300,000 | 44,280 | 44,000 | 124,818 | | 12,000 | 525,098 |
| Francesca Cook | 2012 | 283,069 | 67,087 | | 53,469 | | 12,000 | 415,625 |
| Senior Vice President, Policy and Gov't Affairs[6] | | | | | | | | |
| Thomas R. Fuerst, Ph.D. | 2012 | 257,949 | | | | | 178,420 | 436,369 |
| Executive Vice President, Chief, Scientific Officer[7] | 2011 | 313,632 | 35,454 | | 88,869 | | 24,000 | 461,955 |
| | 2010 | 226,599 | 65,000 | | 661,926 | 17,700 | 17,754 | 988,979 |

(1) Amounts appearing in the Bonus column include any previously guaranteed bonuses and, in accordance with SEC guidance, also include discretionary bonus payments, while any amounts appearing in the Non-equity Incentive Plan Compensation column reflect non-discretionary bonus payments awarded under the PharmAthene Bonus Program for executive officers and other employees, i.e., any amounts that were earned by the executive officers by meeting the relevant performance objectives specified in the PharmAthene Bonus Program. For 2012, those performance objectives are described in the section "— PharmAthene's Executive Compensation."

(2) Dollar amounts shown reflect the aggregate grant date fair value of stock/options computed in accordance with FASB ASC Topic 718 (formerly FAS 123R). The fair value was estimated using the assumptions detailed in Note 2 to PharmAthene's Consolidated Financial Statements included in PharmAthene's Annual Reports on Form 10-K for the fiscal years ended December 31, 2012 and 2011, respectively. The material terms of each grant are described in the footnotes to the "Outstanding Equity Awards at Fiscal Year-End table" below.

(3) Mr. Richman was appointed PharmAthene's President and Chief Operating Officer on March 25, 2010, its interim Chief Executive Officer on May 2, 2010 and its Chief Executive Officer on October 20, 2010. He became a director of PharmAthene on May 17, 2010. Mr. Richman did not receive any compensation for his service in his capacity as director.

(4) Ms. Chang was appointed PharmAthene's Senior Vice President and Chief Financial Officer in November 2011. As Ms. Chang was not a Named Executive Officer in 2011 and 2010, her summary compensation information for those years has been omitted from this table.

(5) As Mr. Karp was not a Named Executive Officer in 2010, his summary compensation information for 2010 has been omitted from this table.

(6) As Ms. Cook was not a Named Executive Officer in 2011 and 2010, her summary compensation information for those years has been omitted from this table.

(7) Dr. Fuerst was appointed PharmAthene's Senior Vice President and Chief Scientific Officer in April 2010 and became PharmAthene's Executive Vice President and Chief Scientific Officer in December 2010. Dr. Fuerst resigned from PharmAthene in October 2012. Amounts under "All Other Compensation" for

2012 include severance payments of $159,821, of which $53,274 was paid in 2012 and $106,547 was paid in 2013. In addition, the amount includes payments for housing and accrued vacation aggregating $18,599.

**Grants of Plan-Based Awards**

The following table sets forth information regarding each grant of an award made to each Named Executive Officer during the fiscal year ended December 31, 2012 under any plan, contract, authorization or arrangement pursuant to which cash, securities, similar instruments or other property may be received.

| Name | Grant Date | Number of Securities Underlying Options[1] | Exercise or Base Price of Option Awards ($/sh)[2] | Grant Date Fair Value of Option Awards ($)[3] |
|---|---|---|---|---|
| Eric I. Richman | 12/12/12 | 150,000 | 1.19 | 129,915 |
| Linda L. Chang | 12/03/12 | 75,000 | 1.13 | 61,695 |
| Jordan P. Karp | 12/03/12 | 65,000 | 1.13 | 53,469 |
| Francesca Cook | 12/03/12 | 65,000 | 1.13 | 53,469 |
| Thomas R. Fuerst | | | | |

(1) Represents shares of common stock issuable upon exercise of stock options granted during 2012.

(2) Represents the closing sales price of PharmAthene's common stock on the NYSE MKT on the grant date.

(3) Dollar amounts shown reflect the aggregate grant date fair value of options computed in accordance with FASB ASC Topic 718 (formerly FAS 123R). The fair value was estimated using the assumptions detailed in Note 8 to PharmAthene's Consolidated Financial Statements included in PharmAthene's Annual Reports on Form 10-K for the fiscal years ended December 31, 2012 and 2011, respectively. The material terms of each grant are described in the footnotes to the "Outstanding Equity Awards at Fiscal Year-End table" below.

In 2012, all equity awards were granted under PharmAthene's 2007 Long Term Incentive plan and vest in four equal installments on the first, second, third and fourth anniversaries of the grant date.

### Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information concerning the outstanding equity awards of each of the Named Executive Officers in the Summary Compensation Table as of December 31, 2012.

**As of December 31, 2012**

| Name | Option Awards | | | | Stock Awards | |
|---|---|---|---|---|---|---|
| | Number of Securities Underlying Unexercised Options[1] Exercisable | Number of Securities Underlying Unexercised Options[1] Unexercisable | Option Exercise Price ($) | Option Expiration Date | Number of Shares or Units That Have Not Vested[2] | Market Value of Shares or Units of Stock That Have Not Vested ($)[3] |
| Eric I. Richman, President and Chief Executive Officer[4] | 28,638 | 0 | $ 2.96 | 11/15/2013[5] | | |
| | 11,043 | 0 | $ 3.80 | 1/18/2015[6] | | |
| | 4,510 | 0 | $ 3.80 | 2/22/2016[7] | | |
| | 8,282 | 0 | $ 3.80 | 1/4/2017[8] | | |
| | 260,000 | 0 | $ 5.20 | 10/2/2017[9] | | |
| | 22,930 | 7,643 | $ 2.46 | 1/21/2019[10] | | |
| | 50,000 | 50,000 | $ 1.51 | 3/25/2020[11] | | |
| | 100,000 | 0 | $ 1.48 | 5/18/2020[12] | | |
| | 62,500 | 62,500 | $ 4.20 | 10/20/2020[13] | | |
| | 62,500 | 62,500 | $ 3.34 | 11/3/2020[14] | | |
| | 112,500 | 112,500 | $ 3.91 | 12/23/2020[15] | | |
| | 25,000 | 0 | $ 1.76 | 9/30/2021[16] | | |
| | 37,500 | 112,500 | $ 1.16 | 12/7/2021[17] | | |
| | 91,121 | 0 | $ 1.16 | 12/7/2021[18] | | |
| | 0 | 150,000 | $ 1.19 | 12/12/2022[19] | | |
| Jordan Karp, Esq., Senior Vice President and General Counsel | 200,000 | 0 | $ 2.37 | 7/2/2018[24] | | |
| | 3,594 | 1,198 | $ 2.46 | 1/21/2019[25] | | |
| | 25,000 | 25,000 | $ 1.38 | 5/6/2020[26] | | |
| | 37,500 | 37,500 | $ 3.55 | 12/8/2020[27] | | |
| | 25,000 | 0 | $ 1.76 | 9/30/2021[28] | | |
| | 18,750 | 56,250 | $ 1.21 | 12/1/2021[29] | | |
| | 36,900 | 0 | $ 1.21 | 12/1/2021[30] | | |
| Thomas R. Fuerst, Ph.D., Executive Vice President Chief Scientific Officer | 200,000 | 0 | $ 1.69 | 4/5/2020[20] | | |
| | 10,000 | 0 | $ 1.38 | 5/6/2020[21] | | |
| | 18,750 | 0 | $ 3.55 | 12/8/2020[22] | | |
| | 29,545 | 0 | $ 1.21 | 12/1/2021[23] | | |
| Francesca Cook, Senior Vice President, Policy and Government Affairs | 2,761 | 0 | $ 2.96 | 10/14/2013[32] | | |
| | 8,283 | 0 | $ 3.80 | 1/18/2015[33] | | |
| | 3,222 | 0 | $ 3.80 | 2/22/2016[34] | | |
| | 8,281 | 0 | $ 3.80 | 1/4/2017[35] | | |
| | 140,000 | 0 | $ 5.20 | 10/2/2017[36] | | |
| | 19,303 | 6,434 | $ 2.46 | 1/21/2019[37] | | |
| | 37,500 | 37,500 | $ 1.38 | 5/6/2020[38] | | |
| | 37,500 | 37,500 | $ 3.55 | 12/8/2020[39] | | |
| | 18,750 | 56,250 | $ 1.21 | 12/1/2021[40] | | |
| | 30,933 | 0 | $ 1.21 | 12/1/2021[41] | | |
| | 0 | 65,000 | $ 1.13 | 12/3/2022[42] | | |
| Linda L. Chang, Chief Financial Officer | 57,500 | 112,500 | $ 1.59 | 11/7/2021[43] | 13,333[45] | 14,933 |
| | 0 | 75,000 | $ 1.13 | 12/3/2022[44] | | |

(1) Reflects options granted under PharmAthene's 2007 Plan as well as options initially granted under the 2002 Long-Term Incentive Plan and assumed by PharmAthene in the 2007 merger and now outstanding under the 2007 Plan. The exercise price of these options is subject to customary anti-dilution adjustments.

(2) Reflects restricted stock awards granted under PharmAthene's 2007 Plan on November 7, 2011. Unless otherwise indicated in the footnotes below, all shares of restricted stock vest in three equal annual installments of 33 1/3$^{rd}$ of the grant beginning on the first anniversary of the date of grant.

(3) Reflects a closing price of PharmAthene's common stock on December 31, 2012 of $1.12 per share. The closing price of PharmAthene's common stock on April 18, 2013 was $1.59.

(4) Mr. Richman was appointed PharmAthene's President and Chief Operating Officer on March 25, 2010, PharmAthene's interim Chief Executive Officer on May 2, 2010 and PharmAthene's Chief Executive Officer on October 20, 2010. Through March 24, 2010, he was PharmAthene's Senior Vice President, Business Development and Strategic Planning.

(5) Reflects options to purchase 28,638 shares of common stock granted on November 15, 2003, which are fully vested.

(6) Reflects options to purchase 11,043 shares of common stock granted on January 18, 2005, which are fully vested.

(7) Reflects options to purchase 4,510 shares of common stock granted on February 22, 2006, which are fully vested.

(8) Reflects options to purchase 8,282 shares of common stock granted on January 4, 2007, which are fully vested.

(9) Reflects options to purchase 260,000 shares of common stock granted on October 2, 2007, which are fully vested.

(10) Reflects options to purchase 30,573 shares of common stock granted on January 21, 2009 pursuant to which 25% vested on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(11) Reflects options to purchase 100,000 shares granted on March 25, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(12) Reflects options to purchase 100,000 shares granted on May 18, 2010, which are fully vested.

(13) Reflects options to purchase 125,000 shares granted on October 20, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(14) Reflects options to purchase 125,000 shares granted on November 3, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(15) Reflects options to purchase 225,000 shares granted on December 23, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(16) Reflects options to purchase 25,000 shares granted on September 30, 2011, which are fully vested.

(17) Reflects options to purchase 150,000 shares granted on December 7, 2011, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(18) Reflects options to purchase 91,121 shares granted on December 7, 2011, which are fully vested.

(19) Reflects options to purchase 150,000 shares granted on December 12, 2012, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, subject to accelerated vesting, in certain circumstances described above.

(20) Reflects options to purchase 350,000 shares granted on April 5, 2010, of which 50,000 vested immediately, and 75,000 vested on the first and second anniversary of the grant date. The balance of the award was forfeited as a result of Dr. Fuerst's October 19, 2012 resignation.

(21) Reflects options to purchase 20,000 shares granted on May 6, 2010, pursuant to which 25% vested on the first and second anniversary of the grant date. The balance of the award was forfeited as a result of Dr. Fuerst's October 19, 2012 resignation.

(22) Reflects options to purchase 75,000 shares granted on December 8, 2010, pursuant to which 25% vested on the first and second anniversary of the grant date. The balance of the award was forfeited as a result of Dr. Fuerst's October 19, 2012 resignation.

(23) Reflects options to purchase 29,545 shares granted on December 1, 2011, which vested in full with the modification made to the award as a part of Dr. Fuerst's severance agreement. These options were exercised by Dr. Fuerst in March 2013.

(24) Reflects options to purchase 200,000 shares granted on July 2, 2008, which are fully vested.

(25) Reflects options to purchase 4,792 shares granted on January 21, 2009, pursuant to which 25% vested on the first, second, third and fourth anniversaries of the grant date.

(26) Reflects options to purchase 50,000 shares granted on May 6, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(27) Reflects options to purchase 75,000 shares granted on December 8, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(28) Reflects options to purchase 25,000 shares granted on September 30, 2011, which are fully vested.

(29) Reflects options to purchase 75,000 shares granted on December 1, 2011, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(30) Reflects options to purchase 36,900 shares granted on December 1, 2011, which are fully vested.

(31) Reflects options to purchase 65,000 shares granted on December 3, 2012, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(32) Reflects options to purchase 5,522 shares of common stock granted on October 14, 2003, 2,761 of which were exercised and 2,761 which are fully vested but unexercised.

(33) Reflects options to purchase 11,044 shares of common stock granted on January 18, 2005, 2,761 of which were exercised and 8,283 which are fully vested but unexercised.

(34) Reflects options to purchase 3,222 shares of common stock granted on February 22, 2006, which are fully vested.

(35) Reflects options to purchase 8,281 shares of common stock granted on January 4, 2007, which are fully vested.

(36) Reflects options to purchase 140,000 shares of common stock granted on October 2, 2007 which are fully vested.

(37) Reflects options to purchase 25,737 shares of common stock granted on January 21, 2009, which vested in three equal annual installments of 33 1/3$^{rd}$ of the grant beginning on the first anniversary of the date of grant, subject to accelerated vesting, in certain circumstances described above.

(38) Reflects options to purchase 75,000 shares granted on May 6, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(39) Reflects options to purchase 75,000 shares granted on December 8, 2010, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(40) Reflects options to purchase 75,000 shares granted on December 1, 2011, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(41) Reflects options to purchase 30,933 shares granted on December 1, 2011, which are fully vested.

(42) Reflects options to purchase 65,000 shares granted on December 3, 2012, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date.

(43) Reflects options to purchase 170,000 shares granted on April 5, 2010, of which 20,000 vested immediately, and 37,500 vest on the first, second, third and fourth anniversaries of the grant date, in certain circumstances described above.

(44) Reflects options to purchase 75,000 shares granted on December 3, 2012, pursuant to which 25% vest on the first, second, third and fourth anniversaries of the grant date, in certain circumstances described above.

(45) Reflects 20,000 shares of restricted stock granted on November 7, 2011 pursuant to which 33.3% vested on each anniversary of the date of grant.

### Option Exercises and Stock Awards Vested

The following table sets forth information regarding the exercise of stock options and vesting of restricted stock awards during the fiscal year ended December 31, 2012 for each Named Executive Officer on an aggregated basis.

| Name | Stock Awards | |
|---|---|---|
| | Number of Shares Acquired on Vest | Value Realized on Vest[1] |
| Eric I. Richman | 85,191 | $ 109,860 |
| Jordan P. Karp | 1,597 | $ 2,172 |
| Francesca Cook | 8,579 | $ 11,667 |
| Linda L. Chang | 6,667 | $ 7,134 |
| Thomas R. Fuerst, Ph.D. | — | — |

(1) The amounts in the "Value Realized on Vest" column are calculated based on the difference between the closing market price per share of PharmAthene's common stock on the date of vest, if available, or previous business day.

### Equity Compensation Plan Information

The following table provides information regarding the number of securities to be issued under PharmAthene's 2007 Plan, the weighted-average exercise price of options issued under the 2007 Plan and the number of securities remaining available for future issuance under the 2007 Plan, in each case as of December 31, 2012:

| Plan category | Number of securities to be issued upon exercise of outstanding options, warrants and rights | Weighted-average exercise price of outstanding options, warrants and rights | Number of securities remaining available for future issuance under equity compensation plans |
|---|---|---|---|
| Equity compensation plans approved by security holders | 6,225,612[1] | $ 2.52 | 7,521,334[2] |
| Equity compensation plans not approved by security holders | — | — | — |
| Total | 6,225,612 | $ 2.52 | 7,521,334 |

(1) Does not include 13,333 shares of restricted stock granted under the 2007 Plan as of December 31, 2012.

(2) This amount includes shares underlying unexercised options already granted and reported in the first column. Under PharmAthene's 2007 Plan, such shares are not treated as issued and are not counted as used against the plan limits until the options are exercised. If PharmAthene was to exclude shares underlying unexercised options already granted, this amount would be 1,295,722 as of December 31, 2012. Under PharmAthene's 2007 Plan, the number of shares available for issuance under such plan is automatically increased as of the first day of its fiscal year, beginning in 2009 and occurring each year thereafter through 2015, by a number that is equal to the lower of (i) 1,100,000 shares, (ii) 2.5% of the outstanding shares of common stock as of the end of PharmAthene's immediately preceding fiscal year, and (iii) any lesser number of shares determined by the Board; provided, however, that the aggregate number of shares available for issuance pursuant to such increases may not exceed 5,700,000 shares.

Further information regarding PharmAthene's 2007 Plan is contained in Note 8 to its consolidated financial statements for the fiscal year ended December 31, 2012 contained elsewhere in this proxy statement/prospectus/consent solicitation.

**Theraclone's Executive Compensation**

***Fiscal 2012 Summary Compensation Table***

The following table presents summary information concerning all compensation paid to or earned by Mr. Stocks, Dr. Ramos and Dr. Swiderek for services rendered to Theraclone in all capacities during the fiscal year ended December 31, 2012. These individuals are referred to below, collectively, as Theraclone's Named Executive Officers. Theraclone's Named Executive Officers are the only individuals who served as the principal executive officer or one of the two most highly compensated executive officers of Theraclone as of December 31, 2012 and who will continue to serve to serve in similar capacities at the combined company following the merger.

| Name and Principal Position | Salary ($) | Non-Equity Incentive Plan Compensation ($) | Option Awards ($)[1] | Total[4] |
|---|---|---|---|---|
| Clifford J. Stocks<br>Theraclone Chief Executive Officer | 365,000 | 111,781 | 14,512 | 491,293 |
| Eleanor Ramos, M.D.<br>Theraclone Chief Medical Officer | 353,903 | 77,416 | 14,512 | 445,831 |
| Kristine Swiderek, Ph.D.<br>Theraclone Chief Scientific Officer | 250,000 | 43,750 | 10,884 | 304,634 |

(1) The amounts reported in this column represent the aggregate grant date fair value of stock options granted under Theraclone's 2004 Stock Option Plan to its Named Executive Officers during the fiscal year ended December 31, 2012 as computed in accordance with Accounting Standards Codification Topic 718. The assumptions used in calculating the dollar amount recognized for financial statement reporting purposes of the equity awards reported in this column are set forth in note 8 to Theraclone's consolidated financial statements included in this proxy statement/prospectus/consent solicitation. Note that the amounts reported in this column reflect the accounting cost for these stock options, and do not correspond to the actual economic value that may be received by Theraclone's Named Executive Officers from the stock options.

*Non-Equity Incentive Plan*

For fiscal 2012, Mr. Stocks, Dr. Ramos and Dr. Swiderek were eligible to receive cash bonus payments of up to 35%, 25% and 20%, respectively, of their annual base salary, pursuant to each of their employment agreements. Theraclone's Board of Directors awarded these cash bonuses based on Theraclone's achievement of its 2012 corporate goals and objectives, which consisted of clinical development, discovery research and preclinical development, and corporate development and finance objectives. Theraclone's Board of Directors determined that 87.5% of Theraclone's 2012 corporate goals and objectives had been achieved, and therefore awarded each of the Named Executive Officers that percentage of their maximum potential bonus.

*Stock Options*

At the discretion of the Theraclone Board of Directors, in May 2013, Mr. Stocks, Dr. Ramos and Dr. Swiderek were granted 10,000, 10,000 and 7,500 options to purchase Theraclone common stock, respectively, for services performed in 2012. Each of the stock options vested and become exercisable with respect to 2.0833% of the award monthly, beginning on February 1, 2013, subject to the optionee's provision of service to Theraclone on each vesting date. Upon the completion of the merger, each of the stock options to purchase Theraclone common stock will become options to purchase shares of PharmAthene common stock, as more fully described above in the section entitled "THE MERGER."

*Theraclone Employment Agreements*

*Clifford J. Stocks*. Mr. Stocks was employed as Theraclone's Chief Executive Officer under an Executive Employment Agreement dated December 2, 2011. Under his employment agreement, Mr. Stocks was entitled to receive an annual base salary of $365,000, subject to increases if approved by the Theraclone Board of Directors, and an annual cash bonus of up to 35% of his then-current base salary upon the achievement of annual corporate performance goals mutually agreed upon between Mr. Stocks and Theraclone. The Executive

Employment Agreement also provided for certain additional payments in the event of Mr. Stocks separation from Theraclone or upon a change in control of Theraclone. In connection with his employment, Mr. Stocks was granted an option to purchase 1,819,447 shares of Theraclone common stock, which vested with respect to 25% of the award vested on December 1, 2012 and with respect to 2.0833% of the award, monthly thereafter. Mr. Stocks was also granted an option to purchase 909,724 shares of Theraclone common stock, which vests (i) with respect to 100% of the award upon a "change in control" of Theraclone (as defined below, and including an initial public offering of Theraclone) that is completed prior to June 2, 2015 and that results in gross proceeds to the holder of Theraclone preferred stock equal to or in excess of the total capital invested in shares of Theraclone preferred stock at the time of the change in control multiplied by ten, (ii) with respect to 75% of the award upon a change in control of Theraclone that is completed prior to June 2, 2015 and that results in gross proceeds to the holder of Theraclone preferred stock equal to or in excess of the total capital invested in shares of Theraclone preferred stock at the time of the change in control multiplied by seven and one-half and (iii) with respect to 50% of the award upon a change in control of Theraclone that is completed prior to June 2, 2015 and that results in gross proceeds to the holder of Theraclone preferred stock equal to or in excess of the total capital invested in shares of Theraclone preferred stock at the time of the change in control multiplied by five. The 909,724 options subject to these vesting conditions will terminate upon completion of the merger. Mr. Stocks was also eligible to receive an annual stock option to purchase up to 100,000 shares of Theraclone common stock. Except as described herein, upon the completion of the merger, each of Mr. Stocks' stock options to purchase Theraclone common stock will become options to purchase shares of PharmAthene common stock, as more fully described above in the section entitled "THE MERGER."

Under Mr. Stocks' Executive Employment Agreement, "change in control" meant (i) a sale, conveyance, exchange or transfer (excluding any venture-backed or similar investments in Theraclone) in which any person or entity, either directly or indirectly, becomes the beneficial owner, directly or indirectly, of securities of Theraclone representing 50% of the total voting power of all its then outstanding voting securities; (ii) a merger or consolidation of Theraclone in which its voting securities immediately prior to the merger or consolidation do not represent, or are not converted into securities that represent, a majority of the voting power of all voting securities of the surviving entity immediately after the merger or consolidation; or (iii) a sale of substantially all of the assets of Theraclone or a liquidation or dissolution of Theraclone.

*Eleanor Ramos, M.D.* Dr. Ramos was employed as Theraclone's Chief Medical Officer under an Executive Employment Agreement dated July 18, 2011. Under her employment agreement, Dr. Ramos was entitled to receive an annual base salary of $350,000, subject to increases if approved by the Theraclone Board of Directors, and an annual cash bonus of up to 25% of her then-current base salary upon the achievement of annual corporate performance goals mutually agreed upon between Dr. Ramos and Theraclone. The Executive Employment Agreement also provided for certain additional payments in the event of Dr. Ramos' separation from Theraclone or upon a change in control of Theraclone. In connection with her employment, Dr. Ramos was granted an option to purchase 412,300 shares of Theraclone common stock, which vested with respect to 25% of the award vested on July 8, 2012 and with respect to 2.0833% of the award, monthly thereafter. Dr. Ramos was also eligible to receive an annual stock option to purchase up to 100,000 shares of Theraclone common stock. Upon the completion of the merger, each of Dr. Ramos' stock options to purchase Theraclone common stock will become options to purchase shares of PharmAthene common stock, as more fully described above in the section entitled "THE MERGER."

*Kristine Swiderek, Ph.D.* Dr. Swiderek was employed as Theraclone's Chief Scientific Officer under an Executive Employment Agreement dated December 15, 2010. Under her employment agreement, Dr. Swiderek was entitled to receive an annual base salary of $230,000, subject to increases if approved by the Theraclone Board of Directors, and an annual cash bonus of up to 20% of her then-current base salary upon the achievement of annual corporate performance goals mutually agreed upon between Dr. Swiderek and Theraclone. The Executive Employment Agreement also provided for certain additional payments in the event of Dr. Swiderek's separation from Theraclone or upon a change in control of Theraclone. In connection with her employment, Dr. Swiderek was granted an option to purchase 220,000 shares of Theraclone common stock, which vested with respect to 25% of the award vested on January 4, 2012 and with respect to 2.0833% of the award, monthly thereafter. Dr. Swiderek was also eligible to receive an annual stock option to purchase

up to 75,000 shares of Theraclone common stock. Upon the completion of the merger, each of Dr. Swiderek's stock options to purchase Theraclone common stock will become options to purchase shares of PharmAthene common stock, as more fully described above in the section entitled "THE MERGER."

In connection with the merger, each of these employment agreements will terminate, and Mr. Stocks, Dr. Ramos and Dr. Swiderek will enter into new employment agreements with the combined company, as further described in the section entitled "THE MERGER—Interest of Theraclone's Directors and Executive Officers."

***Outstanding Equity Awards at 2012 Fiscal Year-End***

The following table sets forth certain information with respect to the value of all unexercised options previously awarded to the Named Executive Officers as of December 31, 2012, each of which were awarded under the Theraclone 2004 Stock Option Plan. No stock options held by any of Theraclone's Named Executive Officers were exercised during fiscal year 2012.

| | Option Awards[1] | | | |
|---|---|---|---|---|
| | Number of Securities Underlying Unexercised Options (#) | | | |
| Name | Exercisable | Unexercisable | Option Exercise Price ($) | Option Expiration Date |
| Clifford J. Stocks | 454,862 | 1,364,585[2] | 0.28 | 12/02/2021 |
| Theraclone Chief Executive Officer | | 909,724[3] | 0.28 | 12/02/2021 |
| Eleanor Ramos, M.D. | 146,023 | 266,277[4] | 0.28 | 09/29/2021 |
| Theraclone Chief Medical Officer | | | | |
| Kristine Swiderek, Ph.D. | 105,417 | 114,583[5] | 0.28 | 03/24/2021 |
| Theraclone Chief Scientific Officer | 29,641 | 32,219[6] | 0.28 | 09/29/2021 |
| | 16,875 | 50,625[7] | 0.28 | 12/01/2021 |

(1) References to options or shares held by all executive officers in the table refer to options or shares of Theraclone.

(2) These options were granted on December 2, 2011 and 25% of the award vested on December 1, 2012 and 2.0833% of the award vests monthly thereafter.

(3) These options were granted on December 2, 2011 and vest upon Theraclone's initial public offering or a change of control, as described above in the section entitled "—Theraclone Employment Agreements." These options will terminate upon completion of the merger.

(4) These options were granted on September 29, 2011 and 25% of the award vested on July 8, 2012 and 2.0833% of the award vests monthly thereafter.

(5) These options were granted on March 24, 2011 and 25% of the award vested on January 4, 2012 and 2.0833% of the award vests monthly thereafter.

(6) These options were granted on September 29, 2011 and 25% of the award vested on January 4, 2012 and 2.0833% of the award vests monthly thereafter.

(7) These options were granted on December 1, 2011 and 2.0833% of the award vests monthly beginning on January 1, 2012.

**Theraclone's Director Compensation**

*Theraclone Director Compensation*

Theraclone compensated its independent, non-employee directors through cash compensation and grants of stock options to attract and retain qualified candidates to serve on its board of directors. In fiscal 2012, Theraclone had one independent, non-employee director, Wendye Robbins, who will not serve on the board of directors of the combined company. Directors who were also are employees of Theraclone or affiliated with its venture capital investors received no compensation for their service as directors or as members of board committees, other than reimbursement of business expenses incurred in connection with serving on the Theraclone Board of Directors, except for Dr. Gillis, who received cash compensation for his service as the

Chairman of Theraclone's Board of Directors and his increased responsibilities in that role. In setting director compensation, Theraclone considered the significant amount of time that directors dedicated to the fulfillment of their director responsibilities, as well as the competency and skills required of directors.

*Non-Employee Director Compensation*

The following table sets forth the fiscal year 2012 compensation paid to or earned by the individuals who are expected to serve as non-employee directors of the combined company upon completion of the merger. None of the Theraclone directors who will serve as non-employee directors of the combined company upon completion of the merger received any compensation in the fiscal year 2012, except for Dr. Gillis, as described below.

**Non-Employee Director Compensation Table**

| Name | Fees Earned or Paid In Cash[1] | Stock Awards($)[2][3] | Total($) |
|---|---|---|---|
| Steven Gillis, Ph.D. | 60,000 | 10,091 | 70,091 |

(1) Dr. Gillis received $60,000 per year for his service as the Chairman of Theraclone's Board of Directors.

(2) At the discretion of Theraclone's Board of Directors, Dr. Gillis received 60,000 stock options to purchase shares of Theraclone's common stock at a price of $0.27/share for his service as the Chairman of Theraclone's board of directors in fiscal year 2012.

(3) The amount reported in this column represents the aggregate grant date fair value of stock options granted under Theraclone's 2004 Stock Option Plan to its director during the fiscal year ended December 31, 2012 as computed in accordance with Accounting Standards Codification Topic 718. The assumptions used in calculating the dollar amount recognized for financial statement reporting purposes of the equity awards reported in this column are set forth in note 8 to Theraclone's consolidated financial statements included in this proxy statement/prospectus/consent solicitation. Note that the amounts reported in this column reflect the accounting cost for these stock options, and do not correspond to the actual economic value that may be received by Dr. Gillis from the stock options.

**PharmAthene's Director Compensation**

The following table sets forth the cash and non-cash compensation of PharmAthene's directors (other than its Chief Executive Officer, who was not separately compensated for his service on the Board) for the fiscal year ended December 31, 2012. In the paragraph following the table and in the footnotes, PharmAthene describes its standard compensation arrangement for service on the Board of Directors and board committees.

**For the Fiscal Year Ended December 31, 2012**

| Name[1] | Fees earned or paid in cash ($)[2] | Option Awards ($)[3] | Total ($) |
|---|---|---|---|
| John M. Gill | 58,000 | 20,342 | 78,342 |
| Brian A. Markison | 52,000 | 20,342 | 72,342 |
| Joel McCleary | 53,000 | 20,342 | 73,342 |
| Jeffrey Runge | 47,500 | 20,342 | 67,842 |
| Mitchel Sayare, Ph.D. | 45,500 | 20,342 | 65,842[4] |
| Derace L. Schaffer, M.D. | 47,500 | 20,342 | 67,842 |
| Steven St. Peter | 42,500 | 20,342 | 62,842 |

(1) See the Summary Compensation Table for disclosure related to compensation paid to Eric I. Richman, PharmAthene's Chief Executive Officer. Mr. Richman did not receive any additional compensation for his service as a member of PharmAthene's Board of Directors.

(2) Fees earned are based on membership on the Board of Directors, committee membership and leadership positions. Please refer to PharmAthene's general policy on compensation of the members of

PharmAthene's Board of Directors below in the section entitled " — General Policy Regarding Compensation of Directors." In addition to the other compensation received, members of the Board of Directors are reimbursed for the reasonable out-of-pocket costs incurred by them in connection with travel to and from board and committee meetings. None of such reimbursements amounted to $10,000 or more in 2012, except that Dr. Sayare's expenses incurred or paid in 2012 were $14,911. The amounts reflected in this column represent the cash fees earned by non-executive directors for services during 2012. Of these amounts, the following amounts were paid in 2013 with respect to 2012 services: Gill: $14,500, Markison: $13,000, McCleary: $13,250, Runge: $11,875, Sayare: $11,375, Schaffer: $11,875 and St. Peter: $10,625. The amounts reflected in this column do not include the following cash payments made to directors during 2012 for 2011 services: Gill: $23,087, Markison: $9,717, McCleary: $22,750, Runge: $19,875, Sayare: $20,875, Schaffer: $21,375 and St. Peter: $20,125.

(3) The amounts in this column represent the aggregate grant date fair value for stock option awards issued during 2012 computed in accordance with FAS ASC Topic 718. As of December 31, 2012, the aggregate number of option awards outstanding (vested and unvested) for Dr. Schaffer was 110,000, for Mr. Gill was 152,759, for Mr. McCleary was 162,759, for Dr. St. Peter was 20,000 (not including options to purchase 91,104 shares assigned to MPM), for Dr. Runge was 80,000, for Mr. Markison was 40,000, and for Dr. Sayare was 192,139.

(4) Does not reflect options to purchase 112,139 shares of common stock with a grant date fair value of $205,017, of which 37,380 vested during 2012. These options were granted to Dr. Sayare in 2011 and were reported in PharmAthene's proxy statement for the 2012 annual meeting.

**General Policy Regarding Compensation of Directors**

For a description of PharmAthene's general policy regarding compensation of its directors, please refer to the section entitled "THE MERGER — Interests of PharmAthene's Directors and Officers in the Merger"

## CORPORATE GOVERNANCE

**Corporate Governance Guidelines**. Pursuant to the DGCL and PharmAthene's Bylaws, PharmAthene's business, property and affairs are managed by or under the direction of its Board of Directors. Members of PharmAthene's Board of Directors are kept informed of PharmAthene's business through discussions with its Chief Executive Officer and its other officers, by reviewing materials provided to them and by participating in meetings of PharmAthene's Board of Directors and its committees. PharmAthene Proposal No. 3 relates to the election of nine directors to the PharmAthene Board of Directors, with five nominees designated by PharmAthene and four nominees designated by Theraclone. For more information, please see the section entitled "MATTERS BEING SUBMITTED TO A VOTE BY PHARMATHENE STOCKHOLDERS — PharmAthene Proposal No. 3 — Election of Directors."

**Code of Ethics and Business Conduct**. PharmAthene has a Code of Ethics and Business Conduct that applies to all directors, officers and employees, which can be found on PharmAthene's website, *www.pharmathene.com*, under the heading "Investors" (see "Corporate Governance—Governance Documents") or by writing to PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary. All of PharmAthene's directors, officers and employees are expected to be familiar with the Code and to adhere to those principles and procedures set forth in the Code that apply to them. PharmAthene will post any amendments to the Code of Ethics and Business Conduct, as well as any waivers, that are required to be disclosed by the rules of either the SEC or the NYSE MKT, on its web site, *www.pharmathene.com*.

**Director Independence**. PharmAthene uses the definition of "independence" under Section 803A of the NYSE MKT Company Guide, as applicable and as may be modified or supplemented from time to time, and the interpretations thereunder, to determine if the members of PharmAthene's Board of Directors are independent. In making this determination, the PharmAthene Board of Directors considers, among other things, transactions and relationships between each director and his or her immediate family and PharmAthene, including those reported in this proxy statement/prospectus/consent solicitation in the section entitled "RELATED PARTY TRANSACTIONS." The purpose of this review is to determine whether any such relationships or transactions are material and, therefore, inconsistent with a determination that the directors are independent. On the basis of such review and its understanding of such relationships and transactions, PharmAthene's Board of Directors currently comprises and the combined company's Board of Directors, following the merger, is expected to be comprised of at least a

majority of independent directors. The directors of the combined company immediately following the Merger are expected to be Mitchel Sayare, Ph.D., John M. Gill, Steven Gillis, Ph.D., Wende S. Hutton, Steven P. James, Brian A. Markison, Eric I. Richman, Derace L. Schaffer, M.D., and Clifford J. Stocks, each of whom will be independent upon completion of the merger except for Eric I. Richman and Clifford J. Stocks.

**Board of Directors Leadership Structure**. To assure effective and independent oversight of management, PharmAthene's Board of Directors has operated and intends, following the merger, to continue to operate with the roles of Chief Executive Officer and Chairman of the Board of Directors separated in recognition of the differences between these two roles in the management of PharmAthene. The Chairman of the Board of Directors is an independent, non-management role.

PharmAthene's Board of Directors believes that this leadership structure provides the most effective leadership model. By permitting more effective monitoring and objective evaluation of the Chief Executive Officer's performance, this structure increases the accountability of the Chief Executive Officer. A separation of the Chief Executive Officer and Chairman roles also prevents the former from controlling the Board of Directors' agenda and information flow, thereby reducing the likelihood that the Chief Executive Officer would abuse his power.

**Board of Directors Oversight of Risk Management**. PharmAthene's Board of Directors believes that overseeing how management manages the various risks that PharmAthene faces is one of its most important responsibilities to PharmAthene's stockholders. PharmAthene's Board of Directors believes that, in light of the interrelated nature of PharmAthene's risks, oversight of risk management is ultimately the responsibility of the full Board of Directors; however, it has delegated this responsibility to the Audit Committee with respect to financial risk. The Audit Committee periodically meets with management and PharmAthene's independent registered public accounting firm to review PharmAthene's major financial risk exposures and the steps taken to monitor and control such exposures. PharmAthene's Board of Directors meets regularly to discuss the strategic direction and the issues and opportunities facing the company in light of trends and developments in the biodefense industry and general business environment. Throughout the year, PharmAthene's Board of Directors provides guidance to management regarding strategy and helps to refine the company' operating plans to implement PharmAthene's strategy. The involvement of the Board of Directors in setting PharmAthene's business strategy is critical to the determination of the types and appropriate levels of risk undertaken by PharmAthene.

**Board of Directors Meetings and Attendance**. It is the policy of the PharmAthene Board of Directors that directors should attend each annual meeting of stockholders and all meetings of the Board of Directors, where schedules permit.

**Board of Directors Committees**. PharmAthene's Board of Directors has a separately standing Audit Committee, Governance and Nominating Committee, Compensation Committee and Government Affairs Committee. Each Committee, with the exception of the Government Affairs Committee, consists entirely of independent, non-employee directors. The charter of each board committee (other than the Government Affairs Committee, which does not currently have a charter) is available free of charge on PharmAthene's website, *www.pharmathene.com*, under the heading "Investors" (see "Corporate Governance" — "Committee Charters") or by writing to PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary.

The table below sets forth the committees, current membership of each committee and the number of committee meetings held in the fiscal year ended December 31, 2012.

| Name | Audit | Governance And Nominating | Compensation | Government Affairs |
|---|---|---|---|---|
| John M. Gill | X* | | X | |
| Brian A. Markison | | | X* | |
| Joel W. McCleary | | | X | X* |
| Jeffrey W. Runge, M.D. | X | | | X |
| Mitchel B. Sayare, Ph.D. | | X* | X | |
| Derace L. Schaffer, M.D. | X | X | | |
| Steven St. Peter, M.D. | | X | | |
| Total 2012 Meetings | 4 | 1 | 3 | 0 |

* Committee Chairperson.

The Board of Directors of the combined company will re-evaluate committee membership after completion of the merger and expects each member of the combined company's committees to be independent.

The primary functions of each of the board committees are described below.

*Audit Committee*. The primary functions of the Audit Committee are to: review the professional services and independence of PharmAthene's independent registered public accounting firm and PharmAthene's accounts, procedures and internal controls; appoint (subject to stockholder approval) PharmAthene's independent registered public accounting firm; review and approve the scope of the annual audit; review and evaluate with the independent registered public accounting firm PharmAthene's annual audit and annual consolidated financial statements; review with management the status of internal accounting controls; evaluate problem areas having a potential financial impact on PharmAthene that may be brought to the Audit Committee's attention by management, the independent registered public accounting firm or the Board of Directors; and evaluate all of PharmAthene's public financial reporting documents.

The current members of PharmAthene's Audit Committee each meet the independence criteria for directors under the rules of the NYSE MKT and the additional independence criteria for members of audit committees specified in Section 803B of the NYSE MKT Company Guide and Rule 10A-3 under the Exchange Act. Each member of PharmAthene's Audit Committee is financially literate under the current listing standards of the NYSE MKT. PharmAthene's Board of Directors has determined that John M. Gill, the Chairman of the Audit Committee, qualifies as an "audit committee financial expert" as such term is defined by SEC rules.

*Governance and Nominating Committee*. The current members of PharmAthene's Governance and Nominating Committee are "independent" as required by Section 804 of the NYSE MKT Company Guide.

The primary functions of the Governance and Nominating Committee are to: review and make recommendations on the range of skills and expertise which should be represented on the Board of Directors, and the eligibility criteria for individual Board of Directors and committee membership; review and recommend to the Board of Directors the appropriate structure of the Board of Directors; identify individuals qualified to become Board of Directors members and recommend to the Board of Directors the nominees for election to the Board of Directors at annual meetings of stockholders; implement a policy and procedures with regard to consideration of any director candidate recommended by stockholders; retain and terminate any search firm to be used to identify director candidates, and to approve the search firm, fees and other retention terms; and review and recommend to the Board of Directors the appropriate structure of Board of Directors committees, committee assignments and chair person of the board and each committee.

Among the factors the Governance and Nominating Committee considers when determining persons to be nominated include whether such individuals are actively engaged in business endeavors, have an understanding of financial statements, corporate budgeting and capital structure, are familiar with the

requirements of a publicly traded company, are familiar with industries relevant to PharmAthene's business endeavors, are willing to devote significant time to the oversight duties of the Board of Directors of a public company, and are able to promote a diversity of views based on the person's education, experience and professional employment. The Governance and Nominating Committee evaluates each individual in the context of the board as a whole, with the objective of recommending a group of persons that can best implement PharmAthene's business plan, perpetuate PharmAthene's business and represent stockholder interests. The Governance and Nominating Committee may require certain skills or attributes, such as financial or accounting experience, to meet specific board needs that arise from time to time.

PharmAthene is of the view that the continuing service of qualified incumbents promotes stability and continuity in the board room, contributing to the ability of the Board of Directors to work as a collective body, while giving PharmAthene the benefit of the familiarity and insight into PharmAthene's affairs that its directors have accumulated during their tenure. Accordingly, the process of the Governance and Nominating Committee for identifying nominees reflects PharmAthene's practice of re-nominating incumbent directors who continue to satisfy the Governance and Nominating Committee's criteria for membership on the Board of Directors, whom the Governance and Nominating Committee believes continue to make important contributions to the Board of Directors and who consent to continue their service on the Board of Directors. The Governance and Nominating Committee will identify and/or solicit recommendations for new candidates when there is no qualified and available incumbent.

The Governance and Nominating Committee will consider nominees recommended by stockholders. There are no differences in the manner in which the committee evaluates nominees for director based on whether the nominee is recommended by a stockholder. Stockholders who would like to have PharmAthene's Governance and Nominating Committee consider their recommendations for nominees for the position of director, should submit their recommendations, in accordance with the procedures set forth below, in writing to: Corporate Secretary, PharmAthene, Inc., One Park Place, Annapolis, MD 21401.

For nominations, a stockholder's notice must include: (i) as to each person whom the stockholder proposes to nominate for election as a director, (A) the name, age, business address and residential address of such person, (B) the principal occupation or employment of such person, (C) the class and number of shares of stock of PharmAthene that are beneficially owned by such person, (D) any other information relating to such person that is required to be disclosed in solicitations of proxies for election of directors or is otherwise required by the rules and regulations of the SEC promulgated under the Exchange Act, and (E) the written consent of the nominee to be named in the proxy statement as a nominee and to serve as a director if elected and (ii) as to the stockholder giving the notice, (A) the name, business address, and residential address, as they appear on PharmAthene's stock transfer books, of the nominating stockholder, (B) a representation that the nominating stockholder is a stockholder of record and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice, (C) the class and number of shares of stock of PharmAthene beneficially owned by the nominating stockholder and (D) a description of all arrangements or understandings between the nominating stockholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by the nominating stockholder.

*Compensation Committee*. The current members of PharmAthene's Compensation Committee are "independent" as required by Section 805 of the NYSE MKT Company Guide.

PharmAthene's executive compensation program is administered by the Compensation Committee. Each member of the committee qualifies as an outside director within the meaning of Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Internal Revenue Code. The primary functions of the Compensation Committee are to: consider, recommend, oversee and implement executive compensation plans, policies and programs; review the performance and determine the compensation of PharmAthene's executive officers and directors, including the negotiation of any employment agreements with such persons, oversight and administration of the 2007 Plan and the grant of options and awards under the 2007 Plan. Pursuant to Section 805 of the NYSE MKT Company Guide, compensation of PharmAthene's Chief Executive Officer is determined, or recommended to the Board of Directors for determination, by the Compensation Committee comprised solely of independent directors. The Chief Executive Officer is not present during voting or

deliberations. Compensation for all other officers is determined, or recommended to the Board of Directors for determination, by the Compensation Committee comprised solely of independent directors.

Under the Compensation Committee Charter, PharmAthene's Chief Executive Officer and Chairman of the Board of Directors may recommend to the Compensation Committee individual compensation awards for PharmAthene's officers. The Compensation Committee would then have to review the recommendation and make its own recommendation to the Board of Directors.

*Government Affairs Committee*. The primary functions of the Government Affairs Committee are to: oversee and review the status of government initiatives relating to funding and appropriations for the purchase of therapeutics and prophylactics for biological and chemical weapons and other threats to the population and advise the Board of Directors on other governmental considerations in the Board of Directors' deliberations and decision-making processes.

**Process for Communicating with Board of Directors Members**. Interested parties may communicate with any and all members of PharmAthene's Board of Directors by transmitting correspondence addressed to one or more directors by name at the following address: PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary. Communications from PharmAthene's stockholders to one or more directors will be collected and organized by PharmAthene's Corporate Secretary and will be forwarded to the Chairman of the Board of Directors or to the identified director(s) as soon as practicable. If multiple communications are received on a similar topic, the Corporate Secretary may, in his or her discretion, forward only representative correspondence.

The Chairman of the Board of Directors will determine whether any communication addressed to the entire Board of Directors should be properly addressed by the entire Board of Directors or a committee thereof. If a communication is sent to the Board of Directors or a committee, the Chairman of the Board of Directors or the Chairman of that committee, as the case may be, will determine whether a response to the communication is warranted.

## THERACLONE'S BUSINESS

### Overview

Theraclone Sciences, Inc. is a biopharmaceutical company focused on the discovery and development of novel, monoclonal antibody therapeutics for diseases that are devastating for patients and their families and which are a significant threat to human health. Theraclone leverages its proprietary antibody discovery technology, I-STAR™ (In-Situ Therapeutic Antibody Reserve), to identify rare human antibodies that may be developed into antibody product candidates that are potentially safer and more effective than current therapies. Theraclone has a portfolio of innovative antibodies in clinical and preclinical development targeting serious medical conditions with a significant unmet medical need and with a primary focus on infectious disease and cancer.

Theraclone's I-STAR technology enables discovery of fully human antibodies from human subjects that Theraclone believes have significant advantages over antibodies that are discovered with other methods, for example, antibodies discovered using animal immunization technologies or antibodies generated without undergoing natural maturation processes in humans. The ability to discover therapeutic antibody candidates directly from humans has been long sought. Isolation of such antibodies from human sources, however, has historically been difficult and inefficient. Theraclone's I-STAR antibodies are affinity matured in the human immune system. Affinity maturation refers to the process by which B-cells produce antibodies with increased affinity for the corresponding antigens during the course of an immune response. Theraclone's I-STAR antibodies are highly specific to their targets, presenting minimal risk of undesired immune response and thus providing a significant safety benefit in clinical settings when a drug is required to be administered repeatedly or chronically. As a treatment for infectious diseases, Theraclone believes that human antibodies can provide immediate immunity, which is particularly important for immuno-compromised, elderly and pediatric patients who have weak or immature immune systems.

Antibodies can act through a variety of mechanisms of actions. For example, when an antibody binds to a target, the pathogenic property of the target can either be directly inhibited or blocked (e.g., neutralizing antibody), or the bound antibody can direct other components of the immune system to eliminate it (non-neutralizing, protective antibody). The latter is also referred to as "antibody effector function mediated immunity." Either mechanism of action that an antibody uses, neutralization or effector function, can protect against development or progression of disease. Upon binding to their specific target, some antibodies are internalized into the cell interior (internalizing antibodies). Such antibodies can be linked or conjugated to a toxin to deliver the toxin specifically into the target cell. In oncology, Theraclone's technology can identify human antibodies that are internalized by tumor cells and, therefore, may offer an approach to deliver therapeutic payloads as antibody-drug based conjugates targeting cancer cells.

Theraclone's strategy is to:

- advance clinical development of its lead product candidates, TCN-032 and TCN-202;
- utilize the I-STAR technology and its antibody discovery capabilities to identify new product candidates;
- form strategic alliances to help fund research and development operations and accelerate the development of its product candidates; and
- pursue funding through partnerships with the U.S. government.

Theraclone has advanced two infectious disease product candidates into Phase 2 clinical development:

- *TCN-032*. Theraclone's flu antibody, TCN-032, is a recombinant fully human monoclonal antibody for the treatment of patients hospitalized with serious influenza. TCN-032 targets all known seasonal, pandemic and highly-pathogenic influenza A virus strains. Theraclone has completed a placebo controlled proof-of-concept Phase 2a viral challenge clinical study of TCN-032 in human volunteers, which, while not meeting its primary endpoint, nevertheless demonstrated reductions in clinical symptoms and viral shedding. As of August 31, 2013, Theraclone had dosed 59 subjects in Phase 1 and Phase 2a clinical studies of TCN-032. Theraclone is currently planning a dose ranging Phase 2 clinical study in patients with uncomplicated seasonal flu, as well as a Phase 2a safety study

in patients hospitalized with serious influenza. Please refer to the section entitled "Theraclone's Business — Theraclone's Strategy — Flu Antibody Drug Candidate TCN-032 — TCN-032 Clinical Development Program" for further details on this product candidate, including the concluded Phase 2a study.

- *TCN-202.* Theraclone's cytomegalovirus, or CMV, antibody, TCN-202, is a recombinant fully human monoclonal antibody for the treatment and prevention of CMV infections. Theraclone has completed a Phase 1 clinical safety study of TCN-202, which generated data showing that this product candidate was safe, well-tolerated, not immunogenic and had a pharmacokinetic profile consistent with a human antibody. Theraclone began a proof-of-concept Phase 2a clinical trial in kidney transplant patients in August 2013. Study data are projected to be reported in the third quarter of 2014.

Theraclone is also working to identify additional fully human antibodies to expand its discovery pipeline of potential product candidates targeting infectious disease and oncology indications.

Each of Theraclone's product candidates and all potential product candidates were discovered internally using I-STAR technology.

**Market for Antibodies as Therapeutics**

Antibody-based therapeutics, principally monoclonal antibodies, are one of the most important segments of the biologics market. The overall market for monoclonal antibody-based products is expected to grow at an estimated compounded annual growth rate of 6%, reaching over $110 billion by 2023, according to a 2013 market analysis conducted by Visiongain. As of 2012, at least 30 antibody products have been approved by regulatory authorities in the United States and Europe, and, according to a 2010 statistical analysis by Tufts University, more than 300 monoclonal antibodies are in various stages of clinical development.

Despite the large number of therapeutic antibodies in development and on the market, the need for more effective and safer drugs remains high, and indications in oncology and infectious disease continue to represent areas of high unmet medical need.

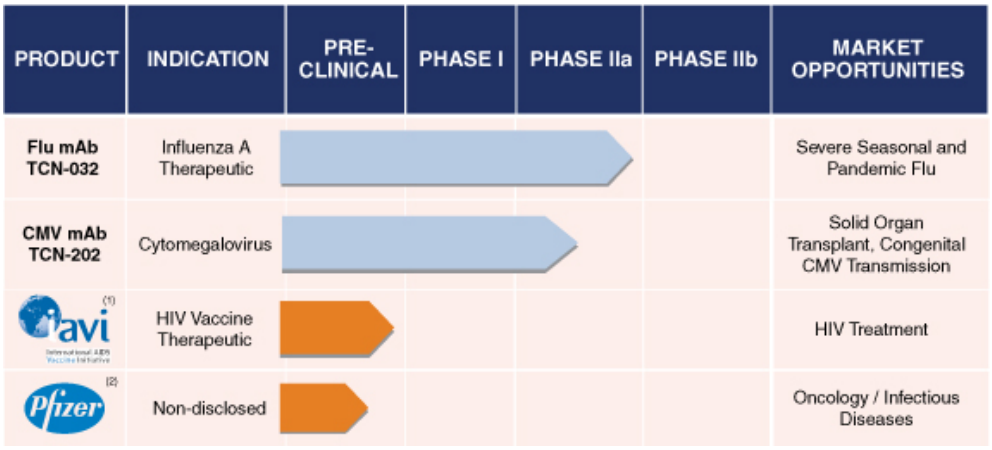
**Theraclone's Strategy**

Theraclone's goal is to become a leading biopharmaceutical company focused on the development of innovative monoclonal antibody therapeutics to address serious unmet medical needs in the indications of infectious disease and cancer. The key elements of Theraclone's strategy are:

- *Advance clinical development of Theraclone's lead product candidates.* Theraclone intends to focus its resources on advancing the clinical development of its two lead product candidates, TCN-032 and TCN-202, which are both in Phase 2 clinical development.
- *Utilize the I-STAR technology and Theraclone's antibody discovery expertise to identify new product candidates.* To add additional fully human antibodies to its discovery pipeline and facilitate additional discovery collaborations, Theraclone is leveraging its I-STAR technology and its antibody discovery expertise to identify potential product candidates that are potentially safer and more effective than the current standard of care.
- *Form strategic alliances to help fund research and development operations and accelerate the development of its product candidates.* Theraclone has formed strategic collaborations with Zenyaku Kogyo, Pfizer and International Aids Vaccine Initiative, or IAVI, to obtain funding to expand its discovery pipeline and advance its product candidates. Theraclone intends to continue to pursue additional strategic collaborations with leading pharmaceutical and biotechnology companies and as a part of any arrangement expects to maintain a share of the commercialization rights.
- *Pursue funding through partnerships with the U.S. Government.* Theraclone intends to continue to pursue funding from the U.S. government, including the DHHS and the DoD. Theraclone's product candidate, TCN-032, is being developed to treat influenza, a key U.S. government public health priority, which may result in U.S. government funding. Theraclone believes that its I-STAR technology platform can generate additional product candidates to address other U.S. government priorities.

**Products Under Development**

The following table provides information about Theraclone's products under development:




(1) As part of the collaboration with IAVI, a large panel of anti-HIV monoclonal antibodies that recognize novel epitopes have been identified. IAVI is pursuing vaccine development and is investigating these epitopes to potentially inform and guide vaccine design against HIV. Theraclone has retained the rights to use the anti-HIV monoclonal antibodies therapeutically, and its aim is to identify a licensee.

(2) Pfizer is responsible for preclinical and clinical development of the antibodies under this collaboration. Theraclone is eligible to receive royalties on net sales of any developed products and research funding and milestone payments upon the achievement of discovery, development, regulatory and commercialization milestones. These milestone payments are contingent upon the successful achievement of specified development activities such as clinical trial initiation or regulatory activities based upon Pfizer's performance.

**Flu Antibody Drug Candidate TCN-032**

*Overview*

Theraclone is developing a recombinant fully human monoclonal antibody, TCN-032, for the treatment of patients hospitalized with severe influenza A infection and as a stockpiled product for preventative and therapeutic treatment options in the event of pandemic flu outbreaks. The influenza A virus continually evolves, and therefore can form resistance to antiviral drugs, making it difficult to develop drugs or vaccines that provide lasting protection against, or treatment for, influenza A infections. TCN-032, however, recognizes and binds to an epitope of the virus protein M2 present in virtually all influenza A virus strains. According to the National Center for Biotechnology Information's database and Theraclone's internal studies, this epitope is present and has remained unchanged in over 99% of the influenza A virus strains reported. As a result, Theraclone believes that TCN-032 may offer universal, broad-spectrum efficacy through a novel mechanism of action against all influenza A virus strains, including the new avian H7N9 strain, future pandemic strains or other drug-resistant strains. Theraclone has completed a Phase 1 clinical study and a Phase 2a viral challenge study, both confirming the safety of TCN-032. While the Phase 2a study did not meet its pre-specified primary endpoint, the overall data support an anti-influenza effect, providing the impetus to proceed to clinical studies in patients with natural infection.

*Market Opportunities*

Influenza A infections continue to be one of the most prevalent, devastating and economically impactful viral diseases in the United States and the rest of the world. According to the WHO, or the WHO, in the last century alone, there have been three global influenza pandemics, among them the so-called "Spanish flu" of 1918 – 1919, which was the single most devastating disease outbreak in human history and was believed to have caused between 20 million and 50 million deaths worldwide. Due to continuous challenges of vaccine

design and production, as well as the prevalence of viral resistance to the drugs currently available, new and more effective preventative treatments and therapies are urgently needed. According to the CDC data, in the United States alone, 5% to 20% of the population is infected with influenza each year. Additionally, in 2009, the WHO reported that worldwide, annual flu epidemics resulted in about three to five million cases of severe illness, and about 250,000 to 500,000 deaths.

*Hospitalized Flu*. According to the DHHS, in 2009, the sum of all costs for all hospital stays of patients with a principal diagnosis of influenza totaled $2.1 billion, which excludes patients with influenza but coded with a different principal diagnosis. The study finds that flu related death rates in the elderly have been increasing over the past decade and projects this to worsen due to an aging population. The initial proposed indication for TCN-032 is for the treatment of severe influenza A infections in hospitalized patients, with an aim to lessen the severity of the infection and the social-economic impact associated with lengthy hospital stays. According to the U.S. Agency for Healthcare Research and Quality, the hospital stay for these patients is typically four to nine days, with longer stays frequently associated with the elderly. Due to the lack of approved drugs for the treatment of hospitalized influenza and the potential of TCN-032 to reduce the length of hospital stays, Theraclone believes the worldwide market for TCN-032 could be significant.

*Pandemic Flu*. According to the WHO, one of the risks to public health is the emergence of new influenza A viruses for which the general population lacks immunity, leading to high infection rates, rapid spread of disease and a global pandemic with high morbidity and mortality rates. The concern for such risk was renewed and is exemplified by the new avian H7N9 strain of the influenza A virus in China, which is considered a latent pandemic threat with a mortality rate of over 20%, according to a 2013 report by the CDC. TCN-032 is a novel, broad-spectrum therapy that could be stockpiled to support the U.S. National Strategy for Pandemic Influenza and the Public Health Emergency Medical Countermeasures Enterprises strategy.

*Current Treatments*

According to the CDC, as advised by the Advisory Committee on Immunization Practices, annual vaccinations against influenza are the best option to prevent influenza infection and reduce the severity of the disease. However, the annual selection of the appropriate vaccine strains presents many challenges and can delay the production of an appropriate vaccine, frequently resulting in sub-optimal protection.

Several small molecules drugs are presently licensed in the United States for the treatment or prevention of influenza. The following table describes the currently marketed therapies for influenza:

| Drug | Company | Generic Name | Class of Drug | Indication |
|---|---|---|---|---|
| Tamiflu® | Roche | Oseltamivir | Neuraminidase inhibitors | Treatment of patients one year and older, symptomatic for less than two days; prophylaxis in patients one year and older |
| Relenza® | Glaxo-Smithkline | Zanamivir | Neuraminidase inhibitors | Treatment of patients seven years and older, symptomatic for less than two days; prophylaxis in patients five years and older |
| Symmetrel® | Endo Pharma | Amantadine | Adamantane | Prophylaxis and treatment of influenza A infection |
| Flumadine® | Forest Labs | Rimantadine | Adamantane | Prophylaxis and treatment of influenza A infection |

According to the FDA, many of the circulating flu virus strains are resistant to Symmetrel and Flumadine, and the CDC has not recommended the use of these two drugs for recently circulating influenza viruses. Of the neuraminidase inhibitors, Tamiflu is the preferred antiviral treatment. Relenza is only available

in an inhaled formulation, and administration of inhaled medications to severely ill patients who have multiple co-existing respiratory medical conditions or who are on mechanical ventilation is generally avoided due to risk of bronchoconstriction.

Clinical use of these drugs has led to the emergence of fully-viable resistant viruses and the utility of these drugs is further limited by a short therapeutic window. For example, Tamiflu's beneficial effect on reducing the duration of influenza illness is optimal when administered within the first 48 hours of the onset of symptoms. Furthermore, according to an article published in 2013 in the British Medical Journal, despite the widespread use of Tamiflu for over 14 years, there continues to be a lack of evidence in reducing hospitalizations due to influenza infection. The urgent need for a more effective therapy is reflected by the DHHS and BARDA's current Broad Agency Announcement for the Advanced Development of Medical Countermeasures for Pandemic Influenza. The development of new, potent antiviral drugs for the prevention and treatment of influenza continues to be a high priority to public health. Theraclone believes that the development of TCN-032, which is anticipated to broadly target influenza A viruses with a mechanism of action effective against drug resistant viruses, represents a more desirable approach for the treatment of influenza that can also complement the use of currently marketed drugs.

*TCN-032 Preclinical Activity Summary*

TCN-032 offers a mechanism of action that may be well-suited to target influenza A. Theraclone's preclinical studies have demonstrated that upon the binding of TCN-032 to the influenza A virus and cells infected by the influenza A virus, the TCN-032 antibody can activate immune defense mechanisms. Specifically, when TCN-032 binds to infected cells, it can act as a bridge by binding and activating specific immune cells programmed specifically to eliminate and kill the infected cells. This process is also referred to as antibody-dependent cellular cytotoxicity. Theraclone's studies have demonstrated that TCN-032 can also act through a process referred to as complement-dependent cytotoxicity, in which the binding of TCN-032 to an infected cell tags the cell for destruction by components of the infected person's immune system. TCN-032 may also act through other mechanisms to eliminate the virus from the human host, including antibody-dependent destruction of the virus (virolysis) and antibody-dependent clearance of infected cells by phagocytes, which are cells that protect the body by ingesting harmful foreign particles (opsonophagocytosis).

In preclinical studies, TCN-032 protected mice from lethal viral challenge and reduced the spread of viruses to other organ systems. In contrast to oseltamivir (Tamiflu®), TCN-032 protected mice from lethal challenge even when administered past 48 hours of infection and demonstrated an additive benefit when used together with oseltamivir. A toxicity study in rats generated data showing that TCN-032 was safe after both single and repeat dose administration. A human tissue cross-reactivity study generated data demonstrating high specificity for the intended viral target, with no binding to human tissues. Based on preclinical findings, Theraclone believes that TCN-032 could offer universal, broad-spectrum efficacy through a novel mechanism of action against influenza A infections.

*TCN-032 Clinical Development Program*

Theraclone completed a Phase 1 clinical study of TCN-032 in early 2012. This study was a single, ascending dose study testing five single dose levels of TCN-032 ranging from a low dose of 1 mg/kg to the highest dose of 40 mg/kg (1, 3, 10, 20 and 40 mg/kg) administered intravenously to healthy volunteers. TCN-032 was well tolerated, with no dose limiting toxicities or serious adverse events reported. Most adverse events were mild to moderate in severity and deemed unrelated to TCN-032. There was no apparent dose relationship between treatment-emergent adverse events and TCN-032 administration. Pharmacokinetic (the study of absorption, metabolism and action of drugs) evaluation indicated a terminal half-life of approximately 15 days and no anti-drug antibodies were detected.

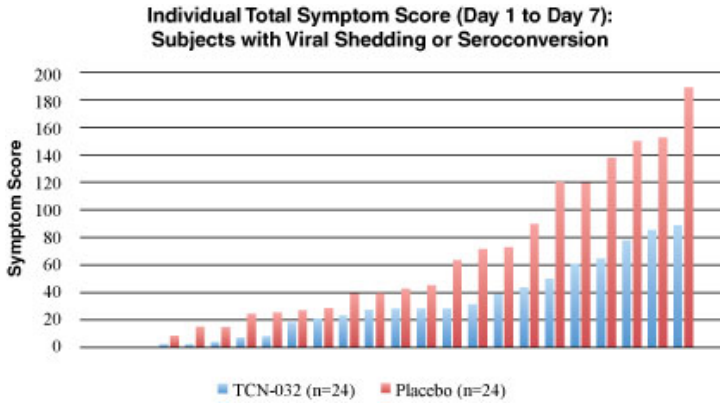
In the first half of 2013, Theraclone completed a Phase 2a clinical study evaluating the safety and efficacy of TCN-032 in a human influenza A viral challenge. As this was the first clinical study of TCN-032 in humans with the influenza A infection, the study was conducted in a controlled setting in which the pattern and kinetics of influenza A infection (both clinical symptom scores and viral load) with a specific viral strain are well characterized. The clinical study was a randomized, double-blind, placebo-controlled study in which healthy subjects were challenged with influenza A virus (Day 0) to which they were not previously exposed. Twenty-four hours following the nasal virus inoculation (Day 1), 61 subjects were randomized, of whom 60

received intravenously administered study drug, TCN-032 at a dose of 40 mg/kg, or placebo. A total of 48 subjects met the definition of laboratory-confirmed infection (TCN-032, n=24 and placebo n=24) defined as those who demonstrated viral shedding or seroconversion.

The primary endpoint for this study was the proportion of subjects who developed any grade 2 or greater influenza symptom or fever, from Day 1 to Day 7. The evaluation of the primary endpoint showed a numerical decrease in TCN-032 treated subjects but was not statistically significant. However, TCN-032-treated subjects showed a 35% reduction (p=0.0466, Wilcoxon rank-sum test) in the median clinical symptoms score severity time curve (Day 1-7).

| Clinical Symptoms | TCN-032 (n=24) | Placebo (n=24) | % Difference | p value (one-sided) |
|---|---|---|---|---|
| Proportion of subjects with \|LX Grade 2 symptoms of pyrexia | 10/24=41.2% | 13/24=54.2% | 12.5% | p=0.21, CMH test |
| AUC (Day 1 – 7) median | 25.5 | 39 | 35% | p=0.0466, Wilcoxon |

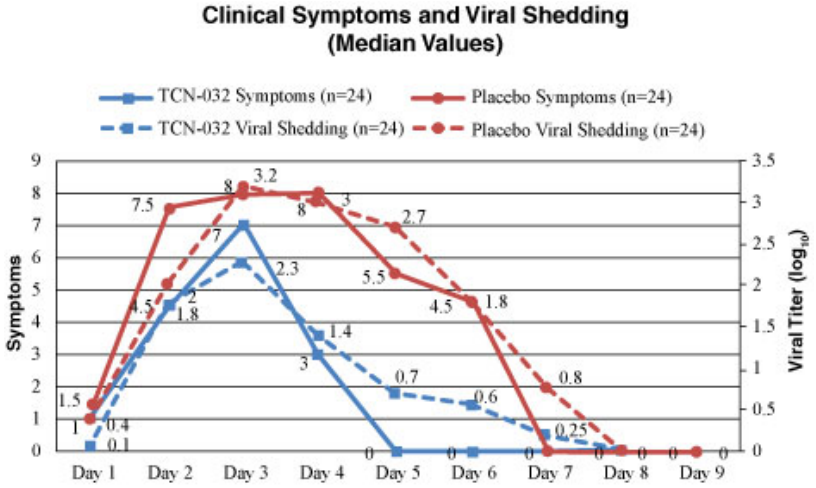
A plot of each individual total clinical symptom score (Day 1-7) in TCN-032 and placebo treated subjects who demonstrated viral shedding or seroconversion, from lowest to highest total score is shown in the graph below, and support the benefit of TCN-032 treatment in mitigating influenza clinical symptoms.




With regard to the choice of the primary endpoint, Theraclone believed a clinical endpoint, as opposed to a viral endpoint, was more suited to TCN-032's non-neutralizing, effector-mediated mechanism of action and was also well suited for the first test of a monoclonal antibody in a human viral challenge model. Theraclone only had historical rates for the proportion of placebo subjects who would be expected to meet this endpoint in order to estimate sample size and, therefore, chose grade 2 or higher symptoms as the primary clinical endpoint. The primary endpoint was not achieved, in part because a single grade 2 event in a subject who might have had a minimal cumulative influenza score (e.g., <10) could meet the primary endpoint, yet another subject who had a high cumulative influenza score (e.g., >100) and was quite ill with classic influenza symptoms did not meet the primary endpoint because no single symptom was severe enough to meet grade 2 scoring.

With regard to viral shedding, TCN-032 treatment led to a 2.2 log reduction in median viral load under the curve, or AUC, (Day 2-7) by qPCR (p=0.095, Wilcoxon rank-sum test) compared to the placebo-treated subjects. TCN-032 was safe and well tolerated, with no increase in adverse events compared to the placebo. In addition, the half-life of TCN-032 was consistent with the Phase 1 study results (approximately 16 days) with no anti-drug antibodies detected. These results are consistent with the intended objective of TCN-032, which is to complement antiviral drugs, extend the therapeutic window and be effective against all strains of influenza, including drug-resistant strains. Considering the totality of the study results, Theraclone believes the results generated promising evidence of a benefit in reductions in total clinical scores and viral load, which it

believes provides biologic proof of efficacy. A composite graph of the median daily clinical score and median viral load (by PCR) in TCN-032 and placebo subjects is shown below.




The results of this study represent the first demonstration that a monoclonal antibody therapeutic may provide immediate immunity and therapeutic benefit in influenza A infection, with no apparent emergence of resistant virus.

Theraclone expects to conduct a Phase 2a safety study in hospitalized patients and a Phase 2b dose-ranging study in patients with uncomplicated influenza to identify a safe and effective dose. Theraclone expects to follow these studies with a pivotal program that it anticipates will focus on the treatment of patients hospitalized with influenza A infection.

**CMV Antibody Drug Candidate: TCN-202**

*Overview*

Theraclone is developing a recombinant fully human monoclonal antibody, TCN-202, for the treatment of CMV infection. Theraclone has completed a Phase 1 clinical study and, in August 2013, initiated a Phase 2a clinical study in solid organ transplant patients designed to generate proof of concept efficacy data. Study data are projected to be reported in the third-quarter of 2014.

*Market Opportunity*

*Solid Organ Transplant Indication.* According to Global Data, the market for prophylactic and therapeutic CMV drugs in solid organ and stem cell transplants is estimated to grow from $726 million in 2012 to $1.1 billion in 2019. Additionally, Global Industry Analysts noted that there were approximately 28,000 solid organ transplant procedures in the United States and the number of procedures is expected to grow to 33,000 by 2017. Worldwide, the Global Observatory on Donation & Transplantation in collaboration with the WHO, reported over 112,000 solid organs were transplanted in 2011, representing approximately a 5% increase compared to procedures performed in 2010. The procedures include kidney, liver, heart, lung, pancreas and small intestine. Transplant patients at highest risk for CMV disease are those who have not previously been infected with CMV, referred to as CMV recipient negative (R-), who receive their transplant organ from a donor who has previously been infected with CMV, referred to as CMV donor positive (D+). According to 2008 and 2009 articles published in the American Journal of Transplantation, these organ transplant recipients comprise about 20% of all organ transplant procedures and have an approximately 70% chance of CMV infection resulting from their transplant procedure. Transplant patients that have previously had a CMV infection and receive a transplant organ from a donor who has also previously had a CMV infection have approximately a 65% chance of CMV reactivation or re-infection. Theraclone believes that patients in this latter category may also be candidates for preventative treatment of TCN-202.

*Congenital Infection Indication*. There is a significant risk that women who become infected with CMV for the first time during pregnancy will pass the virus on to the fetus (congenital CMV infection). According to a 2009 report by CDC, each year, approximately 30,000 children born in the United States have congenital CMV infection and reports indicate a range of 50 to nearly 400 fatal cases due to congenital CMV. 5,000 to 8,000 children born each year in the United States suffer from permanent hearing loss, intellectual disability, psychomotor delay, speech and language disabilities, behavioral disorders or visual impairment due to CMV infection. Approved treatment options for children born with congenital CMV infections do not exist, and Theraclone believes that prevention of congenital CMV infection represents a significant unmet medical need that could be addressed by treating pregnant women diagnosed with primary CMV infection during pregnancy with monthly administration of TCN-202.

*Current Treatments*

The most commonly employed preventative antiviral drugs for the treatment of CMV infection in solid organ and hematopoietic stem cell transplants are ganciclovir and valganciclovir, with foscarvir and cidofovir as second-line treatments. All four drugs exhibit potentially serious adverse effects, including a reduction of blood cells (myelosuppression) that results in diminished immune function and a toxic effect on the kidneys (nephrotoxicity). As an alternative to these antiviral drugs, human blood-derived anti-CMV immunoglobulin has shown promise in the prevention of CMV infection associated with solid organ transplants. Additionally, Cytogam® (Human Cytomegalovirus Immune Globulin Intravenous; CSL Behring) and Cytotect® (Human Cytomegalovirus Immunoglobulin; Biotest Pharma) are used for preventative treatment in various solid organ transplant indications. The results of clinical studies have shown approximately a 40% reduction in CMV infections in renal transplant patients when given Cytogam® or Cytotect®. However, these human blood-derived drugs are subject to unpredictable supply and carry the risk of transmission of other infectious disease to transplant patients.

Treatment of pregnant women with primary CMV infection using currently available antiviral drugs is limited due to the potential for serious adverse effects, including harming development of the fetus, causing deleterious alteration in the genetic material of the embryo and the fetus, and causing cancer (referred to as teratogenicity, genotoxicity and carcinogenicity, respectively), in addition to those noted above. Treatment of congenitally infected infants with neurologic symptoms diagnosed at birth with ganciclovir has been shown to decrease the rate of neurologic deterioration and hearing loss in a randomized study, but was complicated by a significant decrease in white blood cells (grade 3/4 neutropenia) observed in 63% of treated infants. Cytogam® and Cytotect® are also currently being investigated as an approach to prevent congenital CMV infection and may provide an acceptable safety profile. Preliminary study data suggest these products have the potential to be safe and effective in preventing congenital CMV infection when administered to women diagnosed with a primary CMV infection during early pregnancy. However, as with transplant patients, human blood-derived drugs carry the risk of transmitting other infectious disease to the mother and fetus.

Theraclone believes the promising effects of blood-derived anti-CMV immunoglobulin in both the transplant and congenital infection indications support the hypothesis that monoclonal antibodies that target important CMV epitopes will be valuable therapeutic drugs in these indications.

*TCN-202 Preclinical Activity Summary*

TCN-202 is a recombinant fully human monoclonal antibody that specifically binds to the AD-2 epitope of the gB protein on the surface of CMV. The gB protein is important for the fusion of the virus to host cells and thus inhibition of this process is critical for prevention of infection. Preclinical studies of TCN-202 have demonstrated:

- specificity to the intended viral target;
- effective neutralization of CMV in cells susceptible to infection by CMV, including dermal fibroblasts, placental fibroblasts, trophoblast progenitor cells, primary cytotrophoblasts, endothelial cells and epithelial cells;
- inhibition of cell-to-cell viral spread and CMV-mediated fusion of infected cells with neighboring uninfected cells, even when added post-infection;

- 100-fold (added therapeutically) and 1000-fold (added prophylactically) greater potency blocking CMV infection of human placenta tissue sections, as compared to human blood-derived anti-CMV immuneglobulin; and
- no evidence of toxicity following repeat dose administration in rats.

During the course of development, therapeutic antibody product candidates are routinely assessed for any potential binding to tissue or cell structures other than their target. During nonclinical testing, using a large panel of organ tissues from multiple species, TCN-202 displayed some binding to human, monkey and dog superficial skin tissues. In subsequent nonclinical toxicology testing, there was no evidence of toxicity, including skin reactions, following repeat dose administration in cynomolgus monkeys. Furthermore, Phase 1 study in human testing did not show any skin related adverse events.

*TCN-202 Clinical Development Program*

In the first half of 2013, Theraclone completed a Phase 1 clinical study of TCN-202. This study was a dose escalation study in healthy adult volunteers conducted in two parts: a single ascending dose component ranging from a low dose of 1 mg/kg to the highest dose of 50 mg/kg (1, 3, 10, 30 and 50 mg/kg) and a multiple ascending dose component in which 2 doses of 15 mg/kg each were administered 14 days apart to the same subjects. It was designed to assess the safety, pharmacokinetics and immunogenicity of single and multiple ascending intravenous doses of TCN-202. Forty-eight adult subjects were enrolled in six dose cohorts (eight subjects per cohort, of which six were treated with TCN-202 and two were given placebo). The subjects were monitored for up to 60 days after infusion with TCN-202. In the study, TCN-202 was well tolerated. Adverse events were mild or moderate in severity and most were unrelated to TCN-202. Pharmacokinetic evaluation indicated a terminal half-life of approximately 14 days. No anti-drug antibodies were detected following dosing with TCN-202.

In August 2013, Theraclone began a Phase 2a proof-of-concept study in solid organ transplantation. In this study, Theraclone intends to enroll up to 20 renal allograft recipients who are CMV seronegative and receiving a kidney from a CMV seropositive donor. These patients are expected to receive six doses of TCN-202 during the first ten weeks post-transplant and to be observed for 12 months post-transplant. The primary objective of this study is to evaluate the effect of TCN-202 on prevention of CMV infection during the first three months post-transplant.

Following the Phase 2a clinical study, Theraclone anticipates that a Phase 2b dose-ranging clinical study will be conducted to determine a safe and effective dose of TCN-202 in recipients of solid organ transplants. Safety and efficacy data in transplant patients and additional non-clinical studies are anticipated to be necessary to support the development path in the prevention of congenital infection during pregnancy.

*Orphan Drug Designation*

Theraclone sought and the FDA granted in January 2011 an ODD in the United States for TCN-202 for prevention of congenital CMV infection following primary CMV infection in pregnant women. An ODD entitles Theraclone to a seven-year exclusive marketing period in the United States for TCN-202 for congenital CMV infection, except where another treatment shows clinical superiority to the product with orphan drug exclusivity in that it is determined to be safer, more effective or makes a major contribution to patient care. Orphan drug exclusivity does not prevent the FDA from approving a different biologic for the same disease or condition, or the same biologic for a different disease or condition.

**Discovery Programs**

In addition to Theraclone's two clinical product candidates, TCN-032 and TCN-202, Theraclone intends to add product candidates to its pipeline through its discovery programs in the infectious disease and oncology indications.

As part of its influenza research program, Theraclone has discovered a panel of broadly-neutralizing anti-influenza A infection monoclonal antibodies that neutralize the virus through a mechanism of action different from that of TCN-032. Theraclone is considering testing these antibodies in combination with TCN-032 as follow-on drug development efforts in its influenza program.

In collaboration with IAVI, Theraclone has discovered a large panel of broadly neutralizing and highly potent anti-HIV monoclonal antibodies that recognize novel epitopes present in a broad range of viruses in circulation. IAVI is investigating these epitopes to potentially inform and guide vaccine design against HIV. The antibodies may be useful as therapeutic drug candidates to treat HIV infections, such as in patients resistant to existing drugs. Theraclone's aim is to identify a licensee for the therapeutic use of these monoclonal antibodies. For more information about Theraclone's collaboration with IAVI, see "— Collaborations — IAVI" below.

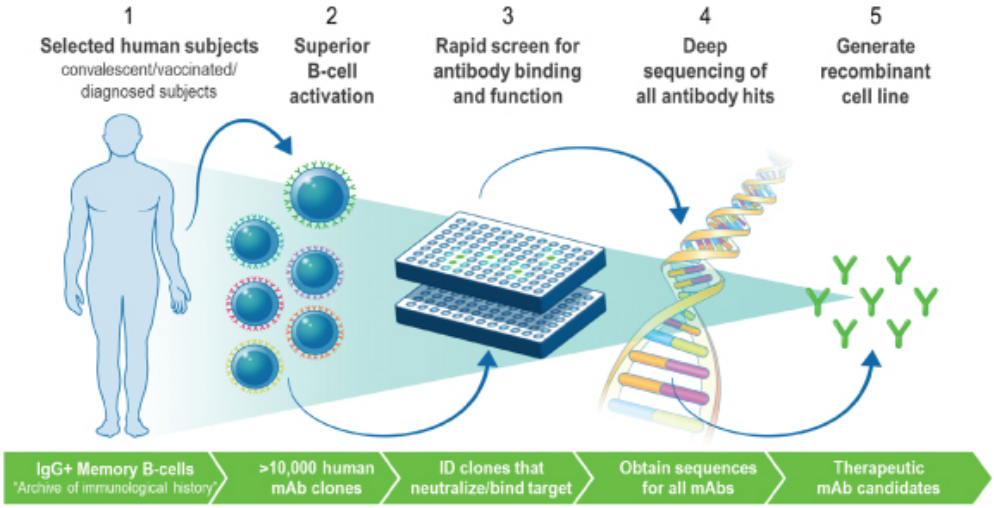
Theraclone has also initiated a program for the discovery and development of fully human antibodies for prevention and treatment of infections caused by *Klebsiella pneumonia*, or *Kp*, which is an opportunistic gram negative bacteria that typically affects the critically ill or patients with weakened immune systems and can cause pneumonia, complicated urinary tract and wound infections and bacteremia. Mechanically ventilated patients and those affected by chronic respiratory disease, diabetes, liver disease and chronic alcoholism are at high risk for acquiring *Kp* infections in the hospital and long term care settings. While antibiotics typically are effective for treating bacterial infections, in the United States, mortality rates of up to 50% for infections with drug resistant *Kp* strains have been reported, according to the National Institute of Health. Due to the rising concern of growing multi-drug resistance in bacteria, serious bacterial infections including those caused by *Kp* represent a significant unmet medical need.

In addition, Theraclone is initiating a program for the discovery of monoclonal antibody candidates and novel target antigens suitable for the treatment of Her2-negative and triple negative (Her2-/ER-/PR-) breast cancer. In the United States, 39,000 women die of breast cancer each year and over 450,000 deaths can be attributed to breast cancer annually worldwide, according to the National Cancer Institute and the WHO. In women, breast cancer remains the cancer of highest incidence and mortality despite intensive efforts of drug development and the provision of new treatment options. Prognosis for patients who can be treated with Her2 targeting therapies has improved. However, the majority of women who develop breast cancer do not overexpress Her2. Additional treatments are needed for patients with triple negative breast cancer and endocrine receptor positive patients refractory to endocrine specific treatments. Theraclone believes that the development of additional treatment options for triple negative breast cancer and hormone refractory metastatic ER+ breast cancer can fulfill a significant unmet medical need.

**Capabilities of I-STAR: Technology for Human Antibody Discovery & Development**

The ability to identify therapeutic antibody candidates directly from humans has been long sought after; however, isolation of such antibodies from human sources has historically been difficult and inefficient. Theraclone has developed and optimized its proprietary human antibody discovery technology, I-STAR, to derive antibodies directly from human memory B cells, which may be developed into therapeutic product candidates. Memory B cells are cells that the immune system generates in response to a foreign pathogen or to components of cancer cells, both also referred to as the "target." Each memory B cell produces a specific antibody that can bind to these targets. The human immune system makes many different memory B cells producing a variety of different antibodies that recognize different parts of targets. For protection against development or progression of disease, human antibodies may act through different mechanisms of action, including neutralization and effector cell mediated immunity.

*Figure 1: The process of deriving human antibodies from human memory B cells.*




Through the following procedures, as depicted in Figure 1 above, I-STAR enables the highly-efficient examination of antibodies produced by individual human memory B cells to identify those with the greatest potential to be developed into drugs in the following steps:

- *Step One.* Theraclone collects a small blood sample from human subjects from which it isolates the memory B cells. The subjects are carefully selected based on their medical history. These subjects have either been diagnosed with a disease or have recovered from a disease for which Theraclone wants to discover and develop therapeutic antibody product candidates. In some cases, subjects may have received a relevant vaccine.
- *Step Two.* Individual memory B cells, also referred to as B cell clones, are then "activated." Upon activation, the memory B cells start to proliferate, differentiate and produce antibodies.
- *Step Three.* Using a variety of tests and assays, Theraclone screens the antibodies to identify those that bind to a specific target (a pathogen or cancer cell surface) or that neutralize infection by a pathogen. The entire process is conducted in a miniaturized, automated format supported with high throughput robotics.
- *Step Four.* The B cells that produced the antibodies with the desired activity are selected for DNA sequencing of the antibodies. Theraclone utilizes high throughput sequencing technologies called "deep sequencing" or "next generation sequencing," as well as bioinformatics tools, to streamline the sequencing process for maximal output efficiency.
- *Step Five.* Once the antibody sequences have been determined, Theraclone produces the antibodies as recombinant proteins in cell culture and purifies them. Antibodies are reconstituted as recombinant IgG, a common human antibody framework, typically as the IgG1 isotype. The recombinant antibodies are characterized in-depth using a variety of assays and other tools to confirm their protective activity towards disease and to determine the extent of protection (which is also referred to as their breadth and potency and often described as the "efficacy"). The most potent and efficacious antibodies are selected as the therapeutic antibody product candidates to enter process, pre-clinical and clinical development.

The process can also facilitate novel target discovery of antibodies with desirable functions without prior knowledge of the target identity. For example, in oncology, Theraclone has successfully identified internalizing

antibodies possessing a broad range of diverse specificities that may be product candidates for antibody drug conjugation. I-STAR technology is applicable to the discovery of antibodies in multiple disease indications, including vaccine development.

Theraclone believes the discovery of therapeutic antibody product candidates using the I-STAR technology has many advantages over other antibody discovery methods, including:

- rapid testing and functional screening of tens of thousands of human memory B cells and the antibodies they produce via rigorous examination of nearly every human memory B cell in a given blood sample;
- identification of naturally elicited and evolved antibodies with the best affinities and selectivity, therefore eliminating the need for further optimization of the antibody through protein engineering;
- discovery of rare antibodies from humans directed against novel and subdominant epitopes without the need for prior knowledge of the molecular target; and
- reduced risk of immunogenicity, improved safety, favorable pharmacokinetic and stability profile and simplified manufacturing due to preservation of the natural structure of the fully human antibodies.

**Collaborations**

*Zenyaku Kogyo*

In March 2010, Theraclone entered into a strategic alliance with Zenyaku Kogyo to develop anti-influenza antibody therapeutics. As part of the agreement with Theraclone, Zenyaku Kogyo exercised its option for an exclusive license in the Japanese territory to Theraclone's influenza monoclonal antibody program. The collaboration utilizes Theraclone's I-STAR technology to discover broadly protective monoclonal antibodies for the treatment of pandemic influenza and severe seasonal influenza, including product candidate TCN-032. The agreement provides for royalty rates in the mid single digits to low double digits for potential future sales in Japan, clinical milestone payments of up to $18 million upon the achievement of certain development and regulatory milestones during the term of the agreement. Theraclone retains worldwide development and commercial rights outside of Japan. Zenyaku Kogyo is eligible to receive a share of proceeds from Theraclone's licensing of rights in certain Asian countries outside of Japan. The term of the agreement will continue on a country-by-country and product-by-product basis unless earlier terminated per the terms of the agreement, until the earlier of the expiration, invalidation or unenforceability of the patents or pending patent applications covered by the agreement or ten years from the commercial launch of the applicable product. If Zenyaku Kogyo determines not to proceed with the products licensed under the agreement, then Zenyaku Kogyo may terminate the agreement upon 30 days prior written notice to Theraclone. Additionally, either party may terminate the agreement under certain other circumstances, including an uncured material breach of any material provision of the agreement and bankruptcy. Theraclone completed a substantial portion of the development activities in connection with the agreement during 2012, by completing the TCN-032 Phase 1 clinical trial and initiating and completing the majority of the subject enrollment portion of the Phase 2a trial. To date, Theraclone has received from Zenyaku Kogyo an aggregate of approximately $21.7 million in fees, research funding payments and milestone payments in support of the influenza discovery and development program through the TCN-032 Phase 1 clinical study, and three equity investments totaling $2 million.

*Pfizer*

In January 2011, Theraclone entered into a multi-year, exclusive discovery research partnership with Pfizer. The collaboration is based on use of Theraclone's I-STAR technology to discover broadly protective monoclonal antibodies against up to four undisclosed targets in the areas of infectious disease and cancer. Pfizer is responsible for preclinical and clinical development of the antibodies under this collaboration. Pfizer will receive an exclusive worldwide license to any therapeutic antibodies discovered under the collaboration. Theraclone is eligible to receive royalties at rates in the mid to high single digits on net sales of any developed products and research funding and milestone payments upon the achievement of discovery, development, regulatory and commercialization milestones. These milestone payments are contingent upon the successful achievement of specified development activities such as clinical trial initiation or regulatory

activities based upon Pfizer's performance. As of June 30, 2013, Theraclone had received approximately $11.5 million in fees and milestone payments from Pfizer. The term of the agreement will continue on a country-by-country and product-by-product basis, unless earlier terminated per the terms of the agreement, until the earlier of the expiration, invalidation, revocation or unenforceability of the patents or pending patent applications covered by the agreement or ten years from the first commercial sale of the applicable product. Pfizer may terminate the agreement on a target-by-target or product-by-product and country-by-country basis for any reason or for no reason upon 60 days prior written notice to Theraclone or, upon written notice, in the event of Theraclone's bankruptcy. Additionally, either party may terminate the agreement upon the other party's uncured material breach of such other party's obligations under the agreement. Theraclone has completed work on the first infectious disease program, has nearly completed work on the initial cancer program, and in March of 2013, Pfizer terminated the second infectious disease program. Additional funding under this agreement depends on whether Pfizer decides to initiate another research program.

*IAVI*

In February 2008, Theraclone commenced an anti-HIV antibody discovery program with IAVI. As a part of this program, Theraclone is utilizing its I-STAR technology to discover antibodies that neutralize the HIV virus. Under the terms of a collaboration agreement, IAVI retains the rights to develop HIV vaccines based on the antibodies and Theraclone retains the rights to develop therapeutics based on the antibodies. Together, Theraclone and IAVI have discovered a large panel of broadly neutralizing and highly potent anti-HIV monoclonal antibodies that recognize novel epitopes present in a broad range of virus in circulation. Theraclone's intent is to identify a licensee for the therapeutic use of these monoclonal antibodies. To date, Theraclone has received approximately $4.4 million in research payments. The term of the collaboration agreement continues, unless earlier terminated per the terms of the agreement, until all deliverables have been provided by Theraclone to IAVI. The collaboration agreement may be terminated by IAVI if it is not reasonably satisfied with Theraclone's performance or if there are significant changes in the scientific staffing at Theraclone that IAVI believes may jeopardize the discovery program. Additionally, either party may terminate the collaboration agreement upon the other party's uncured failure to comply with any material terms or conditions of the collaboration agreement.

**Intellectual Property**

*Patents and Patent Applications*

Theraclone protects its intellectual property by filing patents on:

- composition of matter, or CoM, for antibodies;
- CoM for novel target epitopes; and
- uses of both, including therapeutic use of the antibody and use of the antibody for "reverse-engineering" of a vaccine candidate and including combination therapeutic uses.

CoM patents encompass gene and protein sequences, and variants and derivatives thereof. The status of individual filings varies, and, as of August 31, 2013, 28 patents have been granted or allowed nationally and/or internationally, with expiration dates ranging from November 12, 2028 to March 20, 2030.

As of August 31, 2013, Theraclone had over 90 patents and pending patent applications in its patent portfolio, of which it was the sole owner of seven issued or allowed U.S. patents, with expiration dates ranging from November 12, 2028 to March 20, 2030, and 21 issued or allowed foreign patents, with expiration dates of November 12, 2028. Theraclone also had approximately 63 additional pending patent applications (including provisionals) in the United States, Europe, Asia and other jurisdictions as of such date. There can be no assurances that these patent applications will be granted. In addition to the patents and patent applications owned by Theraclone, its patent portfolio includes patents and patent applications filled in conjunction with the IAVI and Scripps Research Institute. The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which Theraclone files, the patent term is 20 years from the earliest date of filing a non-provisional patent application. In the United States, the patent term of a patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA

regulatory review process. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when Theraclone's products receive FDA approval, Theraclone expects to apply for patent term extensions on patents covering those products. Theraclone plans to seek patent term extensions to any of its issued patents in any jurisdiction where these are available. However, there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with its assessment of whether such extensions should be granted, and if granted, the length of such extensions.

The patent positions of biotechnology companies like Theraclone are generally uncertain and involve complex legal, scientific and factual questions. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Consequently, Theraclone may not obtain or maintain adequate patent protection for any of its product candidates. Theraclone cannot predict whether the patent applications it is currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from competitors. Any patents that it holds may be challenged, circumvented or invalidated by third parties.

*Trade Secrets*

Theraclone also relies on trade secret protection for its confidential and proprietary information, including the I-STAR technology. Although Theraclone takes steps to protect its proprietary information and trade secrets, including through contractual means with its employees, consultants and others, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to its trade secrets or disclose its technology. Thus, Theraclone may not be able to meaningfully protect its trade secrets. It is Theraclone's policy to require its employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with Theraclone. These confidentiality agreements provide that all confidential information concerning its business or financial affairs developed or made known to the individual during the course of the individual's relationship with it is to be kept confidential and not disclosed to third parties except in specific circumstances. Theraclone's confidentiality agreements with its employees also provide that all inventions conceived by the employee in the course of employment with it or from the employee's use of Theraclone's confidential information are Theraclone's exclusive property.

**Manufacturing**

Theraclone does not currently own or operate manufacturing facilities for the production of clinical or commercial quantities of its product candidates. Theraclone has small-scale antibody production capabilities and generally performs limited process development for its product candidates to produce quantities of its product candidates necessary to conduct preclinical studies of its investigational product candidates. Theraclone does not have and it does not currently plan to acquire or develop the facilities or capabilities to manufacture bulk drug substance or filled drug product for use in human clinical studies. Theraclone relies on CMOs and third party contractors to generate production cell lines, perform cell culture production development and produce larger scale amounts of drug substance and the drug product required for its clinical studies. Theraclone expects to continue to rely on CMOs to manufacture cGMP drug substance and drug product required for its clinical studies for the foreseeable future. Theraclone also contracts with CMOs for the labeling, packaging, storage and distribution of investigational drug products. These arrangements allow Theraclone to maintain a more flexible infrastructure while focusing its expertise on developing its products. Theraclone has personnel with the necessary technical, manufacturing, analytical, quality and project management experience to oversee its contract manufacturers and to manage manufacturing and quality data for regulatory compliance purposes.

Theraclone expects to continue to rely on contract manufacturers to produce sufficient quantities of its product candidates in accordance with cGMP for use in clinical trials. The cGMP compliance includes strict adherence to regulations for quality control, quality assurance, and the maintenance of records and documentation. The manufacturing facilities for Theraclone's approved products, if any, must meet cGMP requirements and have acquired FDA or other regulatory approval for the manufacturing of Theraclone's commercial products. Theraclone's contract manufacturers may also be subject to inspections of facilities by regulatory authorities to ensure compliance with applicable regulations. Contract manufacturers often encounter difficulties involving production yields, quality control and quality assurance, as well as shortages of qualified personnel. Theraclone has little or no direct control over its manufacturers' compliance with these regulations and standards. Failure to comply with applicable regulatory requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. These actions could have a material impact on the availability of products.

*Manufacture of Product Candidates TCN-032 and TCN-202*

Theraclone has performed its own initial purification process development, has developed drug product formulations and has adopted a manufacturing strategy of using CMOs for the manufacture of drug substance and drug product to meet the clinical requirements and commercial needs. Theraclone has contracted with CMOs and third party contractors for the manufacture of TCN-032 and TCN-202 bulk drug substance and drug product and for the labeling and distribution of TCN-032 and TCN-202 drug product for its planned clinical studies.

TCN-032 and TCN-202 are currently manufactured in mammalian cell expression systems from readily available starting materials. To the extent that TCN-032 and TCN-202 advance through clinical studies, and to the extent Theraclone brings its future product candidates into clinical studies and collaborates with partners in the development and commercialization of any of Theraclone's product candidates, Theraclone and its existing and prospective partners will be required to assess the manufacturing needs of the product candidates in terms of clinical testing requirements and for commercial production.

**Government Regulation**

Government authorities in the United States at the federal, state and local level, and other countries, extensively regulate, among other things, the research, development, testing, manufacture, labeling, promotion, advertising, distribution, marketing, and export and import of immunopharmaceutical products such as those Theraclone is developing.

All of Theraclone's current product candidates are subject to regulation in the United States by the FDA as biological products, or biologics. The FDA subjects biologics to extensive pre- and post-market regulations. The Public Health Service Act, or PHSA, the Federal Food, Drug and Cosmetic Act, or FDC Act, and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of biologics. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending BLAs withdrawal of approvals, clinical holds, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties or criminal penalties

*United States Government Regulation*

In the United States, the information that must be submitted to the FDA in order to obtain approval to market a new drug varies depending on whether the drug is a new product whose safety and effectiveness has not previously been demonstrated in humans or a drug whose active ingredients and certain other properties are the same as those of a previously approved drug. A new biologic will follow the BLA route for approval, a new drug will follow the New Drug Application, or NDA, route for approval, and a drug that claims to be the same as an already approved drug may be able to follow the Abbreviated New Drug Application route for approval.

The process required by the FDA before a new biologic obtains approval and may be marketed in the United States is long, expensive, and inherently uncertain. Biologics development in the United States typically involves preclinical laboratory and animal tests, the submission to the FDA of either a notice of claimed investigational exemption or an IND, which must become effective before human clinical testing may commence, and adequate and well-controlled clinical trials to establish the safety and effectiveness of the biologic for each indication for which FDA approval is sought. Satisfaction of FDA pre-market approval requirements typically takes many years and the actual time required may vary substantially based upon the type, complexity, and novelty of the product or disease.

*Biologics License Application Approval Process*

In the United States, the FDA regulates drugs and biologics under the FDC Act and, in the case of biologics, under the Public Health Service Act and the FDA's implementing regulations. To help reduce the increased risk of the introduction of adventitious agents, the PHSA emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The PHSA also provides authority to the FDA to immediately suspend licenses in situations where there exists a danger to public health, to prepare or procure products in the event of shortages and critical public health needs, and to authorize the creation and enforcement of regulations to prevent the introduction, or spread, of communicable diseases in the United States and between states.

If Theraclone fails to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, Theraclone may become subject to administrative or judicial sanctions. These sanctions could include the FDA's refusal to approve pending applications, license suspension or revocation, withdrawal of an approval, a clinical hold, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties or criminal prosecution. Any agency or judicial enforcement action could have a material adverse effect on Theraclone.

The major steps required before a biologic drug may be marketed in the United States include:

- completion of laboratory tests and animal studies under the FDA's good laboratory practices regulations;
- submission to the FDA of an IND application for human clinical testing, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled clinical trials to establish the safety and efficacy of the product for each indication;
- submission to the FDA of a BLA which includes the results of all required preclinical animal studies, laboratory tests, clinical trials, and data relating to the product's pharmacology, chemistry, manufacture and control;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with cGMP; and
- FDA review and approval of the BLA.

Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. Long-term preclinical tests, such as animal tests for reproductive toxicity and carcinogenicity, may continue after the IND is submitted. The IND must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, subject to certain exceptions. The FDA may order the temporary or permanent discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the trial subjects.

Clinical trials involve the administration of the investigational new drug or biologic to healthy volunteers or patients under the supervision of a qualified investigator. Clinical trials must be conducted: (i) in compliance with federal regulations; (ii) in compliance with good clinical practice, or GCP, an international standard meant to protect the rights and health of patients and to define the roles of clinical trial sponsors, administrators, and monitors; and (iii) under protocols detailing the objectives of the trial, the parameters to be

used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order the temporary, or permanent, discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. The study protocol and informed consent information for patients in clinical trials must also be submitted to an institutional review board, or IRB, for approval. An IRB may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions. The study sponsor may also suspend a clinical trial at any time on various grounds, including a determination that the subjects or patients are being exposed to an unacceptable health risk.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap or be combined.

Phase 1 clinical trials usually involve the initial introduction of the investigational drug into humans to evaluate the product's safety, dosage tolerance, pharmacokinetics and pharmacodynamics and, if possible, to gain an early indication of its efficacy.

Phase 2 clinical trials usually involve controlled trials in a limited patient population to:

- Evaluate dosage tolerance and appropriate dosage;
- Identify possible adverse effects and safety risks; and
- Evaluate preliminarily the efficacy of the drug for specific indications.

Phase 3 clinical trials usually further evaluate clinical efficacy and further test for safety in an expanded patient population. Phase 1, Phase 2 and Phase 3 trials may not be completed successfully within any specified period, if at all. The FDA or Theraclone, or Theraclone's collaborators may suspend or terminate clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Prior to conducting Phase 3 trials, an applicant may seek a special protocol assessment, which is an agreement between an applicant and the FDA on the design and size of clinical trials that are intended to form the basis of a BLA.

After completion of the required clinical testing, a BLA is prepared and submitted to the FDA. FDA review and approval of the BLA is required before marketing of the product may begin in the United States. The FDA has 60 days from its receipt of a BLA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. The testing and approval process requires substantial time, effort and financial resources, and each may take several years to complete. The FDA may not grant approval on a timely basis, if at all. Theraclone may encounter difficulties or unanticipated costs in its efforts to secure necessary governmental approvals, which could delay or preclude Theraclone from marketing its product candidates. The FDA may limit the indications for use or place other conditions on any approvals that could restrict the commercial application of its product candidates. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further FDA review and approval.

*Orphan Drug Designation*

Under the Orphan Drug Act, the FDA may grant orphan drug designation to biologics intended to treat a rare disease or condition — generally a disease or condition that affects fewer than 200,000 individuals in the United States. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the biologic and its potential orphan use are disclosed publicly by the FDA. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application user fee. Orphan drug designation, however, does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. The first BLA applicant to receive FDA approval for a particular active ingredient to treat a particular disease with FDA orphan drug designation is entitled to a seven-year exclusive marketing period in the United States for that product, for that indication. During the seven-year exclusivity period, the FDA may not approve any other applications, including a full

NDA to market the same drug for the same orphan indication, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent the FDA from approving a different biologic for the same disease or condition, or the same biologic for a different disease or condition.

*Foreign Regulation*

In addition to regulations in the United States, Theraclone will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of its product candidates. Whether or not Theraclone obtains FDA approval for a product candidate, Theraclone must obtain approval by the comparable regulatory authorities of foreign countries before it can commence clinical trials or marketing of the product candidate in those countries. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

Under European Union regulatory systems, a marketing authorization for a medical product derived from biotechnology processes must be submitted under a centralized procedure, which provides for the grant of a single marketing authorization that is valid for all European Union member states.

**Reimbursement**

In the United States and other countries, sales of any products for which Theraclone receives regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors, including government health administrative authorities, managed care providers, private health insurers and other organizations. Each third-party payor may have its own policy regarding what products it will cover, the conditions under which it will cover such products, and how much it will pay for such products. Third-party payors are increasingly examining the medical necessity and cost effectiveness of medical products and services in addition to safety and efficacy and, accordingly, significant uncertainty exists as to the reimbursement status of newly approved therapeutics. Third-party reimbursement adequate to enable Theraclone to realize an appropriate return on Theraclone's investment in research and product development may not be available for Theraclone's products.

The passage of the MMA sets forth the requirements for the distribution and pricing of prescription drugs for Medicare beneficiaries, which may affect the marketing of Theraclone's products. The MMA also introduced a new reimbursement methodology. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market.

Theraclone expects there will continue to be a number of federal and state proposals to implement governmental pricing controls. While Theraclone cannot predict whether such legislative or regulatory proposals will be adopted, the adoption of such proposals could have a material adverse effect on Theraclone's business, financial condition and profitability.

**Competition**

For Theraclone's product candidates in development, Theraclone faces competition from other entities involved in the research and development of therapeutic proteins, antibody products and pharmaceuticals, including The Roche Group (Genentech), GlaxoSmithKline, Johnson & Johnson, Vertex Pharmaceuticals, Inc., Astellas Pharma US, Inc., Chimerix, Inc. and Merck & Co., Inc. A number of Theraclone's largest competitors are pursuing the development or marketing of pharmaceuticals that address the same diseases that Theraclone

is pursuing, and the number of companies seeking to develop products and therapies for these diseases may increase. Theraclone also faces competition from entities developing other types of products targeting particular diseases, including other biotechnology and pharmaceutical companies, universities, public and private research institutions, government entities and other organizations.

Furthermore, Theraclone's potential products, if approved and commercialized, may compete against well-established therapeutic protein-based products or well-established antibody products, many of which may be currently reimbursed by government health administration authorities, private health insurers and health maintenance organizations. For example, if approved for the treatment of influenza, Theraclone anticipates that its product candidate, TCN-032, would compete with other therapies for influenza, including existing antivirals (oseltamivir, zanamivir) and other products in development (peramivir, anti-HA antibodies, VX-787, nitazoxanide). If approved for the treatment of CMV, Theraclone anticipates that its product candidate, TCN-202, would compete with other therapies for CMV, including existing antivirals (ganciclovir, valganciclovir), and other products in development (CMX-001, letermovir and ASP0113).

Many of Theraclone's existing and potential competitors have substantially greater research, product development and commercial capabilities, and financial, scientific, marketing and human resources than Theraclone does. In addition, many specialized biotechnology firms have formed collaborations with large, established companies to support the research, development and commercialization of products that may be competitive with Theraclone. Accordingly, Theraclone's competitors may be more successful than Theraclone may be in developing, commercializing and achieving widespread market acceptance. In addition, Theraclone's competitors' products may be more effective or more effectively marketed and sold than any treatment Theraclone or its development partners may commercialize and may render Theraclone's product candidates obsolete or noncompetitive before it can recover the expenses related to developing and commercializing any of its product candidates.

**Employees**

As of August 31, 2013, Theraclone had 31 full-time employees, 26 of whom were engaged in full-time research and development activities. None of Theraclone's employees are represented by any collective bargaining unit. Theraclone believes that it maintains good relations with its employees.

**Facility**

Theraclone rents office and laboratory space in Seattle, Washington, which consists of approximately 24,000 square feet. The term of the current lease for the Theraclone facility extends through June 30, 2018.

**Legal Proceedings**

From time to time, Theraclone may be involved in litigation relating to claims arising out of its operations in the normal course of business. Theraclone is not currently a party to any legal proceedings, the adverse outcome of which, in its management's opinion, individually or in the aggregate, would have a material adverse effect on the results of its operations or financial position.

## THERACLONE'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*This discussion of Theraclone's financial condition and results of operations should be read together with the consolidated financial statements and notes contained elsewhere in this proxy statement/prospectus/consent solicitation. Certain statements in this section and other sections are forward-looking. While Theraclone believes these statements are accurate, its business is dependent on many factors, some of which are discussed in the sections entitled "Risk Factors" and "Theraclone's Business." Many of these factors are beyond Theraclone's control and any of these and other factors could cause actual results to differ materially from the forward-looking statements made in this proxy statement/prospectus/consent solicitation. See the section entitled "Risk Factors" for further information regarding these factors. Theraclone undertakes no obligation to release publicly the results of any revisions to the statements contained in this proxy statement/prospectus/consent solicitation to reflect events or circumstances that occur subsequent to the date of this proxy statement/prospectus/consent solicitation.*

### Overview

Theraclone Sciences, Inc. is a biopharmaceutical company focused on the discovery and development of novel, monoclonal antibody therapeutics for diseases that are devastating for patients and their families and which are a significant threat to human health. Theraclone leverages its proprietary antibody discovery technology, I STAR (In-Situ Therapeutic Antibody Rescue), to identify rare human antibodies that may be developed into antibody product candidates that are potentially safer and more effective than current therapies. Theraclone has a portfolio of innovative antibodies in clinical and preclinical development targeting serious medical conditions with a significant unmet medical need and with a primary focus on infectious disease and cancer.

Theraclone's I-STAR technology enables discovery of fully human antibodies from human subjects that Theraclone believes have significant advantages over antibodies that are discovered with other methods, for example, antibodies discovered using animal immunization technologies or antibodies generated without undergoing natural maturation processes in humans. The ability to discover therapeutic antibody candidates directly from humans has been long sought. Isolation of such antibodies from human sources, however, has historically been difficult and inefficient. Theraclone's I-STAR antibodies are affinity matured in the human immune system. Affinity maturation refers to the process by which B-cells produce antibodies with increased affinity for the corresponding antigens during the course of an immune response. Theraclone's I-STAR antibodies are highly specific to their targets, presenting minimal risk of undesired immune response and thus providing a significant safety benefit in clinical settings when a drug is required to be administered repeatedly or chronically. As a treatment for infectious diseases, Theraclone believes that human antibodies can provide immediate immunity, which is particularly important for immuno-compromised, elderly and pediatric patients who have weak or immature immune systems.

Theraclone has advanced two infectious disease product candidates into Phase 2 clinical development:

- TCN-032. Theraclone's flu antibody, TCN-032, is a recombinant fully human monoclonal antibody for the treatment of patients hospitalized with serious influenza. TCN-032 targets all known seasonal, pandemic and highly-pathogenic influenza A virus strains. Theraclone has completed a placebo controlled proof-of-concept Phase 2a viral challenge clinical study of TCN-032 in human volunteers, which, while not meeting its primary endpoint, nevertheless demonstrated significant reductions in clinical symptoms and viral shedding. As of August 31, 2013, Theraclone had dosed 59 subjects in Phase 1 and Phase 2a clinical studies of TCN-032. Theraclone is currently planning a dose ranging Phase 2 clinical study in patients with uncomplicated seasonal flu, as well as a Phase 2a safety study in patients hospitalized with serious influenza. Please refer to the section entitled "—Flu Antibody Drug Candidate TCN-032—TCN-032 Clinical Development Program" for further details on this product candidate, including the concluded Phase 2a study.
- TCN-202. Theraclone's cytomegalovirus (CMV) antibody, TCN-202, is a recombinant fully human monoclonal antibody for the treatment and prevention of CMV infections. Theraclone has completed a Phase 1 clinical safety study of TCN-202, which generated data showing that this product candidate was

safe, well-tolerated, not immunogenic and had a pharmacokinetic profile consistent with a human antibody. Theraclone began a proof-of-concept Phase 2a clinical trial in kidney transplant patients in August 2013. Study data are projected to be reported in the third quarter of 2014.

Theraclone is also working to identify additional fully human antibodies to expand its discovery pipeline of potential product candidates targeting infectious disease and oncology indications.

On July 31, 2013, Theraclone entered into the Merger Agreement with PharmAthene, Merger Sub and Steven Gillis, Ph.D., as Securityholders' Representative, pursuant to which Merger Sub will merge with and into Theraclone and Theraclone will survive the merger as a wholly owned subsidiary of PharmAthene. Upon completion of the merger, the PharmAthene security holders will own 50% of the outstanding equity of the combined company, and Theraclone security holders will own 50% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis but excluding PharmAthene warrants and options with an exercise price of more than $2.50 per share. Based on the number of outstanding securities of each company as of October 4, 2013, (i) if no PharmAthene or Theraclone options or warrants are exercised prior to the completion of the merger, PharmAthene and Theraclone security holders would own, respectively, approximately 54.1% and 45.9% of the outstanding shares of common stock of the combined company and (ii) if PharmAthene warrants and options with an exercise price of more than $2.50 per share are exercised, to the extent such exercises occur, PharmAthene and Theraclone security holders would own, respectively, between approximately 51.5% and 50.0% and 48.5% and 50.0% of the outstanding equity of the combined company, on a fully diluted basis. The transaction has been approved by the Board of Directors of both companies and is subject to customary closing conditions, including the approval of the stockholders of Theraclone and PharmAthene. The merger is expected to close in the fourth quarter of 2013.

Theraclone has not generated any revenue from product sales. Theraclone has generated total revenue of $8.4 million, $19.4 million and $4.5 million for the years ended December 31, 2011 and 2012 and the six months ended June 30, 2013, respectively, primarily from upfront payments, research funding and development milestones received from collaboration and license agreements with Zenyaku Kogyo, Pfizer and IAVI. Theraclone has incurred significant net losses since inception and expects to continue to experience significant losses as it invests in the development of its product candidates. As of June 30, 2013, Theraclone's accumulated deficit was $61.0 million. Theraclone's net losses were $8.4 million, $2.8 million and $2.4 million for the years ended December 31, 2011 and 2012 and the six months ended June 30, 2013, respectively.

**Critical Accounting Policies and Significant Judgments and Estimates**

Theraclone's management's discussion and analysis of financial condition and results of operations are based on its financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires Theraclone to make judgments and estimates that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as reported revenues and expenses during the reporting periods. Theraclone bases its estimates on historical experience and on other factors that Theraclone believes are reasonable under the circumstances. An accounting policy is considered to be critical if it is important to a company's financial condition and results of operations, and if it requires the exercise of significant judgment and the use of estimates on the part of management in its application. Although Theraclone believes its judgments and estimates are appropriate, actual results may differ from those estimates.

Theraclone's significant accounting policies are described in Note 2 to its financial statements included in this proxy statement/prospectus/consent solicitation. Theraclone believes that the following accounting policies relating to revenue recognition, convertible preferred stock warrant liability and preferred stock forward contract are the most critical to understanding and evaluating its reported financial results.

***Revenue recognition***

Revenue is recognized when there is persuasive evidence that an arrangement exists, service has been provided, the price is fixed or determinable and collection is reasonably assured.

*Multiple Element Arrangements*

Theraclone's collaborative agreements with Pfizer, Zenyaku Kogyo and IAVI are multiple element arrangements that must be analyzed to identify the deliverables included in the agreements to determine if the deliverables qualify as separate units of accounting. The terms of the agreements may include nonrefundable license fees, funding of research and development activities and payments based upon the achievement of clinical or revenue milestones and royalties. Deliverables are considered a separate unit of accounting when all of the following criteria are met: (i) the delivered item has value to the customer on a standalone basis and (ii) if the arrangement includes a general right of return relative to the delivered item, the delivery or performance of the undelivered item is considered probable and substantially in Theraclone's control. There are no rights of return in Theraclone's collaborative agreements. Multiple contracts with a single party are evaluated as one arrangement if the contracts were entered into in contemplation of each other.

Theraclone's collaborative agreements with multiple elements do not meet the criteria for separate units of accounting and therefore are treated as combined units of accounting to determine appropriate recognition of revenue. For combined units of accounting, the revenue is generally recognized in the same manner as the final deliverable. Revenue is recognized in a manner consistent with the nature of the agreements, which generally is based on a proportional performance methodology, over the estimated term of the research and development service period. In certain circumstances revenue may be recognized on a straight-line basis over the estimated service period or immediately if there is no continuing obligation for the specific deliverable. The estimated term of the research and development service period is reviewed and adjusted based on the status of the project against the estimated timeline as additional information becomes available. Payments received in advance of work performed are recorded as deferred revenue and recognized when earned.

*Substantive Milestone Payments*

Theraclone's collaboration agreements with Pfizer and Zenyaku Kogyo provide for substantive milestones. A milestone is defined as an event that meets the following conditions: (i) there is substantive uncertainty on the date the arrangement is entered into about whether the event will be achieved; (ii) achievement of the event is based in whole, or in part, on either Theraclone's performance or a specific outcome resulting from Theraclone's performance; and (iii) achievement of the event results in additional payment due to Theraclone. For a milestone to be considered substantive, the payment associated with its achievement must have all of the following characteristics: (i) relate solely to Theraclone's past performance; (ii) be reasonable, relative to all of the deliverables and payment terms in the arrangement; and (iii) be commensurate with either Theraclone's effort required to achieve the milestone or the enhanced value of the delivered item(s) as a result of the milestone achievement.

Substantive milestone payments are recognized upon achievement of the milestone only if all of the previous conditions are met and the milestone payments are nonrefundable. Determination as to whether a payment meets the aforementioned conditions involves management's judgment. Theraclone has evaluated the nature of its arrangements and has elected to make a policy election to apply the milestone method where appropriate for its arrangements.

If any of the foregoing conditions are not met, the resulting payment would not be considered a substantive milestone, and therefore, the resulting payment would be determined to be part of the allocable arrangement consideration and would be recognized as revenue as such performance obligations are performed under either the proportional performance or time-based methods, as applicable, and in accordance with the policies as described above.

***Redeemable Convertible Preferred Stock Warrant Liability***

Theraclone accounts for freestanding warrants related to shares that are redeemable for cash as liabilities at fair value because the warrants may conditionally obligate Theraclone to transfer assets at some point in the future. The preferred stock warrant liability is subject to remeasurement at each balance sheet date, and any changes in fair value are recognized as a component of net loss in the statements of operations. Theraclone estimated the fair value of the warrant liability at the respective balance sheet dates on a marketable minority basis using the option pricing Model using the following assumptions as of June 30, 2013: volatility of 55%, expected life of 0.92 years, estimated fair value of Series B convertible preferred stock of $1.48 per share, no

dividends, and a risk-free interest rate of 0.13%. The assumptions used in the valuation model are highly subjective and could differ materially in the future.

Theraclone will continue to record adjustments to the fair value of the warrants until they are exercised, expire or, upon the closing of the merger, convert into warrants to purchase shares of PharmAthene common stock, at which time the warrants will no longer be treated as liabilities. At that time, the then-current aggregate fair value of the warrants will be reclassified from a liability to additional paid-in capital, a component of stockholders' deficit, and Theraclone will cease to record any related periodic fair value adjustments. Upon the closing of the merger, warrants to purchase Theraclone's preferred stock will be assumed by PharmAthene and converted into warrants to purchase PharmAthene common stock. The number of shares of Theraclone common stock subject to each assumed warrant will be determined by multiplying the number of shares of Theraclone common stock (for Theraclone common stock warrants), or the number of shares of Theraclone common stock issuable upon conversion of the shares of Theraclone preferred stock issuable upon exercise of such warrant (for Theraclone preferred stock warrants), as applicable, that were subject to such warrant prior to the Effective Time of the merger by the exchange ratio and rounding the result down to the nearest whole number of shares of PharmAthene common stock. The per share exercise price for the assumed warrants will be determined by dividing the per share exercise price of the warrant as in effect immediately prior to the Effective Time of the merger by the exchange ratio and rounding that result up to the nearest whole cent.

***Redeemable Convertible Preferred Stock Forward Contract***

In March 2013, Theraclone entered into the Series B-1 Preferred Stock and Warrant Purchase and Exchange Agreement, or Series B-1 Agreement, with current stockholders. Under the Series B-1 Agreement, existing Series A and B convertible preferred stock were converted into shares of Series A-1 and B-1, respectively, and Theraclone agreed to sell an additional 5,333,334 shares of Series B-1 preferred convertible stock at a price of $1.50 per share in two closings. Included in the terms of the Series B-1 Agreement were certain rights granted to the holders that obligated Theraclone to deliver additional shares of convertible preferred stock at a specified price in the future. The rights to purchase additional shares were recorded as a liability at the time of issuance, in accordance with guidance applicable to freestanding instruments on shares that are redeemable, at the estimated fair value of the obligation on the date of issuance with their carrying values adjusted at each reporting date for any changes in their estimated fair values. Subsequent changes in carrying value are recorded as financing expense (income) in the statements of operations.

Theraclone estimated the fair value of its preferred stock forward contract as of June 30, 2013 using an OPM that employed the following assumptions as of June 30, 2013; the volatility of 55%, expected life of 0.92 years, a 6% annual dividend, and a risk-free interest rate of 0.13%. The difference between the concluded Fair Value of the Series B-1 shares of $1.48 and the future obligation of $1.50 represents a liability to the investors and is thus recorded as an asset of Theraclone at June 30, 2013. To calculate the present value of this asset, the $.02 per share difference was discounted to a present value employing the weighted average cost of capital of Theraclone of 24%.

**Financial Operations Overview**

***Revenue***

Theraclone has not generated any revenue from product sales. Theraclone's revenue since inception through June 30, 2013, which has totaled $38.0 million, has been primarily from upfront payments, research funding and development milestones received from collaboration and license agreements with Zenyaku Kogyo, Pfizer and IAVI. Theraclone recognizes revenue from upfront payments ratably over the term of Theraclone's estimated period of performance under the agreements. In addition to receiving upfront and research funding payments, Theraclone may also be entitled to milestone payments upon achievement of predefined objectives and royalties ranging from the single digits to low double digits on commercial sales. If there was substantive uncertainty that the event would be achieved when the agreement was entered into, then such payments are recorded as revenue if and when Theraclone achieves the associated milestone.

***Research and Development***

Theraclone expenses research and development costs as incurred. Research and development expense consists of costs incurred to discover, perform preclinical research on and develop drug candidates, including

salaries and stock-based compensation expense for research and development personnel, facility-related expenses, laboratory supplies and consumables, and outside contracted services, including clinical trial costs, manufacturing and process development costs, research costs, outside consulting services and other external costs.

***General and Administrative***

General and administrative expense consists primarily of salaries, stock-based compensation expense and other related costs for personnel in executive, finance and accounting functions and outside contracted services for information technology, corporate communications and human resource functions. Theraclone also expenses patent costs and expenses associated with maintaining its intellectual property as incurred. Other costs include facility costs not otherwise included in research and development expense, insurance, and professional fees for legal, audit and accounting services.

***Other Income and Expense***

Other income and expense includes the change in the fair value of the convertible preferred stock warrant liability and the preferred stock forward contract and interest expense.

***Income Taxes***

Theraclone is subject to U.S. federal income taxes. As of December 31, 2012 and June 30, 2013, Theraclone did not have taxable income and, therefore, no tax liability or expense has been recorded in Theraclone's financial statements. Theraclone has provided a full valuation allowance against its net deferred tax assets as of December 31, 2011 and 2012 and June 30, 2013, because there is significant uncertainty surrounding its ability to realize the deferred tax assets in the future.

**Results of Operations**

***Six Months Ended June 30, 2013 and June 30, 2012***

The following table summarizes results of operations with respect to the items set forth below for the six months ended June 30, 2013 and 2012, in thousands, together with the percentage change in those items.

| | For the Six Months Ended June 30, | | | |
|---|---|---|---|---|
| | 2012 | 2013 | $ Change | % Change |
| Revenue | $ 4,167 | $ 4,495 | $ 328 | 8% |
| Research and development | 6,594 | 5,608 | (986) | (15)% |
| General and administrative | 1,100 | 1,390 | 290 | 26% |
| Change in fair value of financial instruments | — | 228 | 228 | N/A |
| Interest expense | (37) | (107) | (70) | 186% |

*Revenues*

Theraclone's revenue increased by $328,000, or 8%, in the six months ended June 30, 2013 compared to the six months ended June 30, 2012. The increase is primarily the result of an increase in revenue of $2.1 million earned under the antibody discovery collaboration with Pfizer upon termination of the second infectious disease program in March 2013 resulting in recognition of all remaining deferred revenue. In addition, revenue from the IAVI collaboration increased $522,000 as Theraclone initiated an additional discovery program under the collaboration related to the identification of HIV antibodies. These increases were partially offset by a decrease in revenue from the first infectious disease program under the Pfizer collaboration of $900,000 which was completed in 2012 and a decrease in revenue of $800,000 for the cancer program under the Pfizer collaboration for which a majority of the work was performed in 2012. Increases in revenue were further offset by a reduction in revenue of $573,000 from the TCN-032 license and development collaboration with Zenyaku Kogyo as a result of completion of a substantial portion of the development activities in 2012, including completion of the TCN-032 Phase 1 clinical trial and initiating and completing the majority of the subject enrollment portion of the Phase 2a clinical trial in 2012.

Theraclone expects revenue associated with the Pfizer collaboration to decrease in the future, because Theraclone has completed work on the first infectious disease program and has nearly completed work on the

initial cancer program. Additional funding under this collaboration will depend on whether Pfizer decides to initiate another research program or progress the antibodies Theraclone has delivered into further preclinical and clinical development. Revenue from Theraclone's collaboration with Zenyaku Kogyo will decrease for the foreseeable future as it has completed the Phase 2a clinical trial and future funding consists of payments for achievement of clinical development and regulatory milestones.

*Research and Development Expenses*

Research and development activities can be divided into research and preclinical programs and clinical development programs, which currently include TCN-032 and TCN-202. The estimated costs associated with research, preclinical programs and clinical development programs approximate the following:

| | For the Six Months Ended June 30, | | | |
|---|---|---|---|---|
| | 2012 | 2013 | $ Change | % Change |
| Research and preclinical programs | $ 3,376 | $ 3,008 | $ (368) | (11)% |
| Clinical development programs | | | | |
| TCN-032 | 1,311 | 1,592 | 281 | 21% |
| TCN-202 | 1,907 | 1,008 | (899) | (47)% |
| Total clinical development programs | 3,218 | 2,600 | (618) | (19)% |
| Total research and development programs | 6,594 | 5,608 | (986) | (15)% |

Theraclone's research and development expenses decreased by $986,000, or 15%, in the six months ended June 30, 2013 compared to the six months ended June 30, 2012. Research and development expenses from research and preclinical programs decreased in the six months ended June 30, 2013 compared to the six months ended June 30, 2012 primarily due to a reduction in expenses incurred under Theraclone's antibody discovery programs with Pfizer, as a substantial portion of the research on the cancer program and all research on the infectious disease program were completed in 2012.

Research and development expenses from clinical development programs decreased in the six months ended June 30, 2013 compared to the six months ended June 30, 2012 primarily due to lower clinical development and drug manufacturing costs for Theraclone's clinical stage programs. The TCN-202 Phase 1 clinical trial was completed in the first quarter of 2013 resulting in lower expenses in the six months ended June 30, 2013. This decrease was partially offset by an increase in cost due to the initiation of the TCN-032 Phase 2a clinical trial in the third quarter of 2012 which continued through the second quarter of 2013.

Theraclone expects research and development expenses to increase in the future due to increases in manufacturing and clinical development costs related to its clinical programs, as well as the advancement of its discovery programs.

*General and Administrative Expenses*

Theraclone's general and administrative expenses were $1.1 million in the first six months of 2012 compared to $1.4 million for the first six months of 2013, an increase of $290,000, or 26%, primarily due to higher legal fees and other costs related to the pending merger with PharmAthene.

*Interest Expense*

Theraclone's interest expense was $37,000 in the first six months of 2012 compared to $107,000 for the first six months of 2013, an increase of $70,000, or 186%, due to the drawdown of $3 million under its credit and security agreement with MidCap Financial and Silicon Valley Bank in March 2013 and partially offset by a reduction in interest as a result of the payment in full of the term loan with General Electric Capital Corporation. Theraclone expects interest expense to increase in the future due to an increase in its debt from MidCap Financial and Silicon Valley Bank and the expiration of the interest only period in December 2013.

*Change in Fair Value of Financial Instruments*

The fair value of Theraclone's preferred stock warrant liability decreased by $41,000 in the six months ended June 30, 2013 compared to the six months ended June 30, 2012, primarily due to a change in the estimated value of Theraclone's Series B-1 Convertible Preferred Stock.

The fair value of the preferred stock forward contract decreased by $187,000 in the six months ended June 30, 2013. The decrease is due to a change in the estimated value of Theraclone's Series B-1 Convertible Preferred Stock. The decrease in value of the preferred stock forward contract corresponded with a change in the recorded balance from a liability at the time of issuance to an asset at June 30, 2013.

***Years Ended December 31, 2012 and December 31, 2011***

The following table summarizes results of operations with respect to the items set forth below for the twelve months ended December 31, 2012 and 2011, in thousands, together with the percentage change in those items.

| | For the Years Ended December 31, | | | |
|---|---|---|---|---|
| | 2011 | 2012 | $ Change | % Change |
| Revenue | $ 8,384 | $ 19,360 | $ 10,976 | 131% |
| Research and development | 14,816 | 19,611 | 4,795 | 32% |
| General and administrative | 1,827 | 2,461 | 634 | 35% |
| Change in fair value of financial instruments | 4 | 3 | (1) | -25% |
| Interest expense | (104) | (69) | 35 | -33% |

*Revenue*

Theraclone's revenue increased approximately $11.0 million, or 131%, in the year ended December 31, 2012 compared to the year ended December 31, 2011. The increase was the result of an increase of $6.2 million from the antibody discovery collaboration with Pfizer and an increase of $5.3 million from the TCN-032 license and development collaboration with Zenyaku Kogyo. The increase in revenue from the Zenyaku collaboration is a result of completion of a substantial portion of the development activities in 2012, including completion the TCN-032 Phase 1 clinical trial and initiating and completing the majority of the subject enrollment portion of the Phase 2a trial. The increase in revenue under the Pfizer collaboration was due to (i) an increase in revenue of $3.6 million on the first infectious disease program which was completed in December 2012, resulting in all remaining revenue related to this program being recognized in 2012, (ii) completion of a substantial portion of the research on the cancer program in 2012, resulting in a $2.3 million increase in revenue and (iii) initiation of the second infectious disease program in the fourth quarter of 2012 resulting in a $300,000 increase in revenue. These increases were partially offset by a decrease in revenue of $500,000 under the collaboration with IAVI.

*Research and Development Expenses*

Research and development activities can be divided into research and preclinical programs and clinical development programs, which currently include TCN-032 and TCN-202. The estimated costs associated with research/preclinical programs and clinical development programs are as follows:

| | For the Year Ended December 31, | | | |
|---|---|---|---|---|
| | 2011 | 2012 | $ Change | % Change |
| Research and preclinical programs | $ 6,994 | $ 6,640 | $ (354) | -5% |
| Clinical development programs | | | | |
| TCN-032 | 3,820 | 8,264 | 4,444 | 116% |
| TCN-202 | 4,002 | 4,707 | 705 | 18% |
| Total clinical development programs | 7,822 | 12,971 | 5,149 | 66% |
| Total research and development programs | 14,816 | 19,611 | 4,795 | 32% |

Theraclone's research and development expenses increased by $4.8 million, or 32%, in the year ended December 31, 2012 compared to the year ended December 31, 2011. Research and development expenses from research and preclinical programs decreased $354,000, or 5%, in the year ended December 31, 2012 compared to the year ended December 31, 2011 primarily due to (i) a reduction in expenses incurred to acquire donor samples for the I-STAR platform, (ii) a reduction in the acquisition of laboratory supplies and (iii) depreciation of laboratory equipment, partially offset by an increase in the cost of external research services.

Research and development expenses from clinical development programs increased by $5.1 million, or 66%, in the year ended December 31, 2012 compared to the year ended December 31, 2011 primarily due to clinical development expenses associated with the Phase 2a viral challenge trial for TCN-032 and the Phase 1 trial for TCN-202.

Theraclone expects research and development expenses to increase in the future due to increases in manufacturing and clinical development costs related to its clinical programs, as well as the advancement of its discovery programs.

*General and Administrative Expenses*

Theraclone's general and administrative expenses were $2.5 million for the year ended December 31, 2012 compared to $1.8 million for the year ended December 31, 2011, an increase of $634,000, or 35%, primarily due to the increase in salary and non-cash stock-based compensation expenses related to the expansion of Theraclone's senior management team with the addition of a full-time Chief Executive Officer in December 2011 and a Chief Medical Officer in September 2011.

*Interest Expense*

Interest expense was $69,000 for the year ended December 31, 2012 compared to $104,000 for the year ended December 31, 2011, a decrease of $35,000, or 33%, due to the scheduled maturity and payment in full of the remaining balance under the term loan with General Electric Capital Corporation.

**Liquidity and Capital Resources**

Since inception through June 30, 2013, Theraclone has financed its operations primarily through private placements of preferred stock, receiving aggregate proceeds totaling $51 million; borrowings under notes payable, receiving aggregate proceeds totaling $7.0 million; and payments from collaborative and license agreements with pharmaceutical companies and grant receipts, receiving aggregate proceeds of $38.5 million.

| | December 31, 2012 | June 30, 2013 |
|---|---|---|
| | ($ in thousands) | |
| Cash and cash equivalents | $ 5,426 | $ 7,215 |
| Working capital | 774 | 4,630 |
| Total stockholders' deficit | 58,443 | 61,022 |

As of June 30, 2013, Theraclone had $7.2 million in cash and cash equivalents. Theraclone's cash equivalents consist principally of money market securities. Cash in excess of immediate requirements is invested with regard to liquidity and capital preservation. As of June 30, 2013, Theraclone had working capital of $4.6 million. In August 2013, Theraclone completed the second closing of its Series B-1 convertible preferred stock sale to certain current investors for $4.0 million and borrowed an additional $3.0 million under an existing credit and security agreement.

| | Years Ended December 31, | | Six months Ended June 30, | |
|---|---|---|---|---|
| | 2011 | 2012 | 2012 | 2013 |
| | | ($ in thousands) | | |
| **Statement of Cash Flows Data** | | | | |
| Cash provided by (used in) | | | | |
| Operating activities | $ (4,018) | $ (9,766) | $ (7,068) | $ (4,491) |
| Investing activities | (1,167) | (289) | (130) | (201) |
| Financing activities | 11,838 | (318) | 6 | 6,481 |
| Net (decrease) increase in cash and cash equivalents | 6,653 | (10,373) | (7,192) | 1,789 |

***Operating Activities***

Net cash used in operating activities was $4.5 million for the six months ended June 30, 2013. The net loss of $2.4 million was offset by non-cash charges of $289,000 for depreciation and amortization, $101,000 for stock-based compensation and $228,000 for the change in the fair value of financial instruments and increased by net changes in Theraclone's operating assets and liabilities of $2.3 million. The net change in Theraclone's operating assets and liabilities included a decrease in deferred revenue of $3.3 million and accounts payable and accrued liabilities of $494,000, partially offset by a decrease in accounts receivable of $1.4 million.

Net cash used in operating activities was $7.1 million for the six months ended June 30, 2012. The net loss of $3.6 million was offset by non-cash charges of $476,000 for depreciation and amortization and $110,000 for stock-based compensation and increased by net changes in Theraclone's operating assets and liabilities of $4.1 million. The net change in Theraclone's operating assets and liabilities included a decrease in deferred revenue of $1.9 million and accounts payable and accrued liabilities of $480,000, partially offset by a decrease in prepaid expenses of $1.9 million.

Net cash used in operating activities was $9.8 million for the year ended December 31, 2012. The net loss of $2.8 million was offset by non-cash charges of $836,000 for depreciation and amortization and $188,000 for stock-based compensation and increased by net changes in Theraclone's operating assets and liabilities of $8.0 million. The net change in Theraclone's operating assets and liabilities included a decrease in deferred revenue of $7.3 million and an increase in accounts receivable of $1.9 million partially offset by an increase in accounts payable and accrued liabilities of $573,000 and a decrease in prepaid expenses.

Net cash used in operating activities was $4.0 million for the year ended December 31, 2011. The net loss of $8.4 million was offset by non-cash charges of $948,000 for depreciation and amortization and $188,000 for stock-based compensation and decreased by net changes in Theraclone's operating assets and liabilities of $3.2 million. The net change in Theraclone's operating assets and liabilities included a decrease in accounts receivable of $4.0 million and an increase in accounts payable and accrued liabilities of $308,000, partially offset by an a decrease in deferred revenue of $500,000 and an increase in prepaid expenses of $485,000.

Theraclone expects revenue associated with the Pfizer collaboration to decrease in the future, because Theraclone has completed work on the first infectious disease program and has nearly completed work on the initial cancer program. Additional funding under this collaboration will depend on whether Pfizer decides to initiate another research program. Revenue from Theraclone's collaboration with Zenyaku Kogyo will decrease for the foreseeable future as Theraclone has completed the Phase 2a trial and future funding consists of payments for achievement of clinical development and regulatory milestones that are not expected to occur in the near term.

***Investing Activities***

Net cash used in investing activities was $201,000 for the six months ended June 30, 2013 and $130,000 for the six months ended June 30, 2012. Cash used in investing activities was related primarily to Theraclone's acquisition of laboratory equipment and supplies to support the growth of Theraclone's research and development activities.

Net cash used in investing activities was $289,000 for the year ended December 31, 2012 compared to $1.2 million for the year ended December 31, 2011. Cash used in investing activities was related primarily to Theraclone's acquisition of laboratory equipment and supplies and leasehold improvements to support the growth of Theraclone's research and development activities.

***Financing Activities***

Net cash provided by financing activities during the six months ended June 30, 2013 was $6.5 million, compared to net cash provided by financing activities during the six months ended June 30, 2012 of $6,000. In the six months ended June 30, 2013, financing activities consisted of $3.9 million of proceeds from the issuance of Series B-1 convertible preferred stock and $2.8 million of proceeds from issuance of a note

payable, partially offset by $275,000 of debt repayment. In the six months ended June 30, 2012, financing activities consisted primarily of $382,000 from the issuance of a note payable, offset by $376,000 of debt repayment.

Net cash used in financing activities was $318,000 for the year ended December 31, 2012 and cash provided by financing activities was $11.8 million for the year ended December 31, 2011. In 2012, financing activities consisted primarily of proceeds of $382,000 from the issuance of notes payable, offset by $687,000 of debt repayment. In 2011, financing activities consisted of proceeds of $11.6 million from the issuance of Series B preferred stock and $1.1 million of proceeds from issuance of notes payable, partially offset by $866,000 of debt repayment.

In March 2013, Theraclone entered into the Series B-1 Agreement with current stockholders. Under the Series B-1 Agreement, existing Series A and B convertible preferred stock were converted into shares of Series A-1 and B-1, respectively, and Theraclone agreed to sell an additional 5,333,334 shares of Series B-1 convertible preferred stock at a price of $1.50 per share in two closings. The first closing occurred in March 2013 and the second closing occurred in August 2013. Certain investors who participated beyond their pro rata share, received one Series B-1 warrant for each share of Series B-1 stock purchased above their pro rata amount. The warrants have an exercise price of $0.01 per share. These warrants are exercisable at any time before their expiration in March 2020. Theraclone issued 74,139 and 465,228 series B-1 warrants in the first and second closings, respectively. Upon the closing of the merger, these warrants will be assumed by PharmAthene and converted into warrants to purchase PharmAthene common stock.

In May 2011, Theraclone entered into a loan agreement for equipment purchases with Silicon Valley Bank. Under the terms of this loan agreement, Theraclone borrowed $1.5 million in three separate tranches from May 2011 to May 2012 that bear interest at the rate of 5.5% per annum. The three borrowings mature at dates ranging from March 2014 through November 2014 and are collateralized by the laboratory and office equipment purchased with the proceeds of the borrowings. The outstanding balance at June 30, 2013 was $556,000 (excluding $12,000 of unamortized discount). The loan agreement also contains events of default that are customary for this type of loan, including payment defaults, solvency defaults and the occurrence of certain material adverse change events. The occurrence of an event of default could result in the acceleration of the obligations under the loan agreement. The loan agreement could restrict Theraclone’s ability to, among other things, sell the assets securing the debt, engage in a merger or change in control transaction, incur debt, pay cash dividends, or make investments without first obtaining the bank’s consent.

In March 2013, Theraclone entered into a credit and security agreement with MidCap Financial and Silicon Valley Bank under which it can borrow up to $6 million for working capital purposes. Theraclone borrowed $3 million under the credit and security agreement in March 2013, and borrowed the remaining $3 million in August 2013. The credit facility has a term of 45 months and bears interest at a rate of 7%, with an interest-only period of nine months from initiation of the agreement. The credit and security agreement is secured by substantially all of Theraclone’s assets, with the exception of Theraclone’s intellectual property and the laboratory and office equipment purchased with the proceeds of the loan agreement with Silicon Valley Bank.

The credit and security agreement also contains events of default that are customary for credit facilities of this type, including payment defaults, financial condition and solvency defaults and the occurrence of certain material adverse change events. The occurrence of an event of default could result in the acceleration of the obligations under the loan agreement. The credit and security agreement could restrict Theraclone’s ability to, among other things, sell certain assets, engage in a merger or change in control transaction, incur debt, pay cash dividends, and make investments without first obtaining the bank’s consent.

Upon completion of the merger, Theraclone and PharmAthene expect that the combined company will establish a $15 million senior secured credit facility with MidCap Financial, Silicon Valley Bank and GE Healthcare Financial Services, Inc. as lenders, as reflected in a non-binding letter of intent. Such credit facility is expected to consist of a $5 million revolving loan facility and a $10 million term loan, each with a 42-month term. The revolving loan facility is anticipated to bear interest at an annual rate of one month LIBOR (subject to a 1.5% floor) plus a 5.0% margin and the term loan is anticipated to bear interest at an annual rate of 9.0%. The combined company is expected to pay an origination fee of 1.0% of the revolving

loan facility and 0.25% of the term loan, in addition to any unused line fees, prepayment fees, final payment fees and other administrative fees. The revolving loan facility and the term loan will be secured by the combined company's existing and after-acquired assets and will be cross-collateralized and cross-defaulted. The credit facility is also expected to contain representations, warranties, covenants, conditions and defaults customary for transactions of this type. The combined company expects to use the proceeds from the borrowings to refinance PharmAthene's existing senior fully-secured debt facility with GE Capital and Theraclone's credit facility with MidCap Financial and Silicon Valley Bank. The foregoing terms remain subject to final negotiation with the lenders, and the final terms of any senior secured credit facility may be different in whole or in part from the terms described above.

Theraclone will need to raise additional capital to support its operations, and such capital may not be available to Theraclone on acceptable terms, if at all. If Theraclone is unable to raise additional capital when needed, it may be unable to continue development of its product candidates or could be required to delay, scale back, or eliminate some or all of its development programs and other operations.

Theraclone believes that its current cash and cash equivalents will be adequate to fund operations into the second quarter of 2014. The key assumption underlying this estimate is that expenditures related to salaries and wages, continued preclinical, manufacturing and clinical development of its product candidates and legal and accounting fees associated with the merger with PharmAthene during this period will be within forecasted levels.

Theraclone's forecast of the period of time that its financial resources will be adequate to support operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed in the section entitled "RISK FACTORS" of this proxy statement/prospectus/consent solicitation. In light of the numerous risks and uncertainties associated with the development and commercialization of Theraclone's product candidates, Theraclone is unable to estimate the amounts of increased capital outlays and operating expenses that will be associated with product development. Theraclone's future funding requirements will depend on many factors, including:

- the ability to raise capital in the debt/equity markets or through strategic collaborations;
- the costs and timing associated with the closing of the merger;
- the scope, rate of progress, results and costs of its preclinical testing, clinical trials, and other research and development activities;
- the number of programs Theraclone pursues;
- the cost of preparing, filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the cost of establishing clinical and commercial supplies of its product candidates;
- the extent to which Theraclone acquires or invests in businesses, products or technologies; and
- the cost, timing, and outcomes of regulatory approvals.

**Related-Party Transactions**

For a description of Theraclone's related-party transactions, see the discussion under the heading "RELATED PARTY TRANSACTIONS" in this proxy statement/prospectus/consent solicitation.

**Off-Balance Sheet Arrangements**

Since its inception, Theraclone has not engaged in any off-balance sheet arrangements, including the use of structured finance, special purpose entities or variable interest entities.

## DESCRIPTION OF PHARMATHENE CAPITAL STOCK

The following is a summary of the rights of PharmAthene's common stock and preferred stock. This summary is not complete. For more detailed information, see PharmAthene's Certificate of Incorporation, as amended, and Bylaws.

### Common Stock

Under PharmAthene's current Amended and Restated Certificate of Incorporation, as amended, it is authorized to issue 100,000,000 shares of common stock, par value $.0001 per share. As of October 4, 2013, PharmAthene had 52,310,913 shares of common stock outstanding. PharmAthene does not currently have in effect a stockholder rights plan.

Holders of PharmAthene's common stock are entitled to one vote for each share of common stock held of record on all matters to be voted on by stockholders, except as otherwise provided by law or in any preferred stock designation. PharmAthene's Bylaws specify that, except as otherwise required by law or its Certificate of Incorporation, the presence in person or by proxy of holders of a majority of the shares entitled to vote at a meeting of stockholders will be necessary, and will constitute a quorum, for the transaction of business at such meeting. PharmAthene's Bylaws furthermore specify that all elections of directors will be determined by a plurality of the votes and that, except as otherwise provided by law or in the Certificate of Incorporation or Bylaws, any other matter will be determined by the vote of a majority of the shares which are voted with regard to it. PharmAthene's Certificate of Incorporation provides that directors of PharmAthene in their discretion may submit any contract or act for approval or ratification at any annual meeting of the stockholders or at any meeting of the stockholders called for the purpose of considering any such act or contract, and any contract or act that is approved or ratified by the vote of the holders of a majority of PharmAthene's stock that is represented in person or by proxy at such meeting and entitled to vote thereat will be as valid and binding upon PharmAthene and upon all the stockholders as though it had been approved or ratified by every stockholder of PharmAthene. Holders of PharmAthene's common stock have no conversion, preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to the common stock.

There is no cumulative voting with respect to the election of directors, with the result that the holders of more than 50% of the shares voting for the election of directors can elect all of the directors then up for election. Holders of PharmAthene's common stock are entitled to receive dividends when, as and if declared by its Board of Directors out of funds legally available therefor. In the event of PharmAthene's liquidation, dissolution or winding up, the holders of common stock are entitled to share in all assets remaining which are available for distribution to them after payment of liabilities and after provision has been made for each class of stock, if any, having preference over the common stock.

The transfer agent and registrar for PharmAthene's common stock is Continental Stock Transfer & Trust Company, New York, New York.

### Preferred Stock

Under PharmAthene's Certificate of Incorporation, it is currently authorized to issue 1,000,000 shares of preferred stock, par value $.0001 per share. As of the date of this proxy statement/prospectus/consent solicitation, PharmAthene had no shares of preferred stock outstanding.

Under PharmAthene's Certificate of Incorporation, its Board of Directors is expressly granted authority to issue shares of preferred stock, in one or more series, and to fix for each series such voting powers, full or limited, and such designations, preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions as it may determine in the resolution or resolutions providing for the issue of such series (to which it also refers as a "preferred stock designation") and as may be permitted by the DGCL. The number of authorized shares of preferred stock may be increased or decreased (but not below the number of shares of preferred stock then outstanding) by the affirmative vote of the holders of a majority of the voting power of all of the then outstanding shares of PharmAthene's capital stock entitled to vote generally in the election of directors, voting together as a single class, without a separate vote of the holders of the preferred stock, or any series of preferred stock, unless a vote of any such holders is required pursuant to any preferred stock designation.

The rights and terms relating to any new series of preferred stock could adversely affect the voting power or other rights of the holders of the common stock or could be utilized, under certain circumstances, as a method of discouraging, delaying or preventing a change in control of PharmAthene, as discussed below.

**Anti-Takeover Effects of Provisions of PharmAthene's Certificate of Incorporation and Bylaws and Delaware Law**

Some provisions of PharmAthene's Certificate of Incorporation, Bylaws and Delaware law contain provisions that could make the following transactions more difficult: an acquisition of PharmAthene by means of a tender offer; an acquisition of PharmAthene by means of a proxy contest or otherwise; or removal of PharmAthene's incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that PharmAthene stockholders may otherwise consider to be in their best interest or in PharmAthene's best interests, including transactions that might result in a premium over the market price for PharmAthene's shares.

These provisions, summarized below, are designed to discourage coercive takeover practices and inadequate takeover bids. These provisions also are designed to encourage persons seeking to acquire control of PharmAthene to first negotiate with the PharmAthene Board of Directors. The PharmAthene Board of Directors believes that the benefits of increased protection of its potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure PharmAthene outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

In addition, following the merger, the combined company's Certificate of Incorporation and Bylaws contain provisions, such as undesignated preferred stock, that could make it more difficult for a third party to acquire the combined company without the consent of its Board of Directors. Further, the combined company's Bylaws require the combined company to call a special meeting at the request of its stockholders only upon the written request of the holders of at least 10% of all outstanding shares entitled to vote on the action proposed to be taken. These provisions may have the effect of preventing or hindering any attempts by the stockholders of the combined company to replace its Board of Directors or management.

*Certificate of Incorporation and Bylaws*

The following provisions in PharmAthene's Certificate of Incorporation and Bylaws could delay or discourage transactions involving an actual or potential change in control or change in PharmAthene's management, including transactions that PharmAthene stockholders may otherwise consider to be in their best interest or in PharmAthene's best interests, including transactions that might result in a premium over the market price for PharmAthene's shares.

- *Authorized But Unissued Capital Stock.* PharmAthene has common stock and undesignated preferred stock available for future issuance without stockholder approval, subject to any limitations imposed by the NYSE MKT. PharmAthene may use these additional shares for a variety of corporate purposes, including for future public offerings to raise additional capital or to facilitate corporate acquisitions or for payment as a dividend on its capital stock. The existence of unissued and unreserved capital stock may enable the PharmAthene Board of Directors to issue shares to persons friendly to current management that could render more difficult or discourage a third-party attempt to obtain control of PharmAthene by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of PharmAthene's management. In addition, the ability to authorize undesignated preferred stock makes it possible for the PharmAthene Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of PharmAthene. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of PharmAthene.
- *Stockholder Meetings.* PharmAthene's Bylaws provide that a special meeting of stockholders may be called only by the Board of Directors or by the Chief Executive Officer, and shall be called by the Chief Executive Officer, President or the Secretary upon the written request of the majority of the directors or upon the written request of the holders of at least 10% of all outstanding shares entitled to vote on the action proposed to be taken.

*Delaware Anti-Takeover Law*

As a Delaware corporation, PharmAthene is subject to Section 203 of the Delaware General Corporation Law. This law prohibits a publicly-held Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder unless:

- prior to the date of the transaction, the Board of Directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85 percent of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors and also officers and by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date of the transaction, the business combination is approved by the Board of Directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines “business combination” to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10 percent or more of the corporation's assets involving the interested stockholder;
- in general, any transaction that results in the issuance or transfer by the corporation of any of its stock to the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

## COMPARISON OF RIGHTS OF STOCKHOLDERS

Both PharmAthene and Theraclone are incorporated under the laws of the State of Delaware, accordingly the rights of the stockholders of each company are currently, and will continue to be, governed by the DGCL and their respective Certificates of Incorporation and Bylaws. If the merger is completed, Theraclone stockholders will become stockholders of PharmAthene, and their rights will be governed by the DGCL, the Certificate of Incorporation of PharmAthene and the Bylaws of PharmAthene. The rights of PharmAthene contained in the Certificate of Incorporation and Bylaws of PharmAthene differ from the rights of Theraclone stockholders under the Certificate of Incorporation and Bylaws of Theraclone.

The following is a summary of the material differences between the rights of PharmAthene stockholders and Theraclone stockholders under the Certificate of Incorporation and Bylaws of PharmAthene, the Certificate of Incorporation and Bylaws of Theraclone, and, to the extent applicable, the DGCL. While PharmAthene and Theraclone believe that this summary covers the material differences, this summary may not contain all of the information that is important to you. This summary is not intended to be a complete discussion of the respective rights of PharmAthene stockholders and Theraclone stockholders and is qualified in its entirety by reference to the various documents of PharmAthene and Theraclone that are referred to in this summary. You should carefully read this entire proxy statement/prospectus/consent solicitation and the other documents that PharmAthene and Theraclone refer to in this proxy statement/prospectus/consent solicitation for a more complete understanding of the differences between being a stockholder of PharmAthene and being a stockholder of Theraclone.

| | Theraclone | PharmAthene |
|---|---|---|
| Authorized Capital Stock | Theraclone's Certificate of Incorporation currently authorizes the issuance of 98,146,302 shares of capital stock, consisting of two classes, common stock and preferred stock. 60,000,000 shares of common stock, $0.001 par value per share, and 38,146,302 shares of preferred stock, $0.001 par value per share, are authorized. 4,765,145 shares of the authorized preferred stock are designated as Series A-1 convertible preferred stock and 33,381,157 shares of the authorized preferred stock are designated as Series B-1 convertible preferred stock. | PharmAthene's Certificate of Incorporation currently authorizes the issuance of 101,000,000 shares of capital stock, consisting of two classes, common stock and preferred stock. 100,000,000 shares of common stock, $0.0001 par value per share, and 1,000,000 shares of preferred stock, $0.0001 par value per share, are currently authorized. The PharmAthene Board of Directors is asking stockholders to approve an amendment to the Certificate of Incorporation that would increase the number of authorized shares of capital stock to 176,000,000, consisting of 175,000,000 shares of common stock, $0.0001 par value per share, and 1,000,000 shares of preferred stock, $0.0001 par value per share. |

| | Theraclone | PharmAthene |
|---|---|---|
| Redemption | Theraclone's Certificate of Incorporation provides that at any time on or after July 30, 2017, holders of at least a majority of the then outstanding shares of preferred stock have the right to require Theraclone to redeem all of the outstanding shares of preferred stock out of funds lawfully available at a price equal to the price per share paid for the preferred stock, plus all accrued and unpaid dividends. | Holders of shares of PharmAthene common stock do not have any redemption rights. PharmAthene's Certificate of Incorporation provides that the PharmAthene Board of Directors may issue shares of preferred stock and in connection with such issuance fix such designations, preferences and relative, participating, option or other special rights as shall be stated and expressed in the resolution or resolutions adopted by the PharmAthene Board of Directors providing for such issuance and as may be permitted by the DGCL. |
| Dividends | Theraclone's Certificate of Incorporation provides that holders of the Series A-1 Preferred Stock and the Series B-1 Preferred Stock are entitled to receive, out of funds legally available therefor, when, as and if declared by the Theraclone board of directors, cash dividends at a rate per annum of $0.06 per share and $0.09 per share, respectively. All such dividends shall accrue, whether or not earned or declared, and shall be cumulative, non-compounding and payable (i) when and as declared by the Theraclone board of directors, (ii) upon liquidation, dissolution or winding up of the corporation or any Deemed Liquidation Event (as defined in Theraclone's Certificate of Incorporation), and (iii) upon redemption of the preferred stock by the corporation. | Under the DGCL, except as set forth in the Certificate of Incorporation, a corporation is generally permitted to declare and pay dividends out of surplus (defined as the excess, if any, of net assets over capital) or, if no surplus exists, out of net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. However, the directors of a corporation may not pay any dividends out of net profits if the capital of the corporation has been reduced to an amount less than the aggregate amount of capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets. |

| | Theraclone | PharmAthene |
|---|---|---|
| Rights on Liquidation | Theraclone's Certificate of Incorporation provides that where approval of stockholders is required by law, the written consent or the affirmative vote of the holders of at least a majority of the voting power of the then outstanding shares of preferred stock shall be required to authorize the corporation to commence a liquidation, dissolution or winding up of the corporation or any Deemed Liquidation Event (as defined in Theraclone's Certificate of Incorporation).<br>Theraclone's Certificate of Incorporation further provides that upon any liquidation, dissolution or winding up of the corporation or any Deemed Liquidation Event (as defined in Theraclone's Certificate of Incorporation), the holders of preferred stock shall be paid an amount equal to (i) the price per share of preferred stock, plus (ii) in the case of each such share, an amount equal to all accrued but unpaid dividends thereon (whether declare or not declared). If Theraclone's assets are insufficient to make payment in full to all holders of shares of preferred stock, then such assets shall be distributed among the holders of shares of preferred stock ratably in proportion to the full amounts to which they would otherwise be respectively entitled.<br>The remaining assets of the corporation available for distribution shall be distributed among the holders of shares of common and preferred stock in an amount per share as would have been payable had each share of preferred stock been converted to common stock immediately prior to such liquidation event. | Under the DGCL, in case of a dissolution of PharmAthene, the holders of common stock are entitled to receive the assets of PharmAthene available for distribution subject to any preferential liquidation right on any then outstanding preferred stock.<br>PharmAthene's Certificate of Incorporation provides that the PharmAthene Board of Directors may issue shares of preferred stock and in connection with such issuance fix such designations, preferences and relative, participating, option or other special rights as shall be stated and expressed in the resolution or resolutions adopted by the Board of Directors providing for such issuance and as may be permitted by the DGCL. |

| | Theraclone | PharmAthene |
|---|---|---|
| Conversion Rights | Theraclone's Certificate of Incorporation provides that each holder of preferred stock has the option, at any time (except that in the case of any redemption pursuant to Theraclone's Certificate of Incorporation, the right of conversion of the shares designated for redemption shall terminate immediately prior to such redemption, unless the purchase price for such redemption is not paid when due, in which case the right of conversion for such shares shall continue until such price is paid in full), to convert any shares of preferred stock held into shares of common stock according to a conversion formula set forth in Theraclone's Certificate of Incorporation.<br>A mandatory conversion of the preferred stock shall occur in the event (i) the corporation effects a firm commitment underwritten public offering in which the price of the common stock is at least $5.00 per share and such offering results in at least $50,000,000 of gross proceeds to the corporation, (ii) in the case of Series A-1 preferred stock, the holders of at least a majority of the voting power of the then outstanding Series A-1 preferred stock consent to a conversion, (iii) in the case of Series B-1 preferred stock, the holders of at least a majority of the voting power of the then outstanding Series B-1 preferred stock consent to a conversion, (iv) in the case of the preferred stock, the holders of at least a majority of the voting power of the then outstanding preferred stock consent to a conversion, (v) if the holders of shares of preferred stock does not participate in the Qualified Financing (as defined in Theraclone's Certificate of Incorporation) by purchasing in the aggregate in such Qualified Financing such holder's entire Pro Rata Amount (as defined | Holders of shares of PharmAthene common stock do not have any conversion rights. PharmAthene's Certificate of Incorporation provides that the PharmAthene Board of Directors may issue shares of preferred stock and in connection with such issuance fix such designations, preferences and relative, participating, option or other special rights as shall be stated and expressed in the resolution or resolutions adopted by the PharmAthene Board of Directors providing for such issuance and as may be permitted by the DGCL. |

| | Theraclone | PharmAthene |
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| | in Theraclone's Certificate of Incorporation), or (vi) if the holders of shares of preferred stock and common stock issued in the Exchange (as defined in Theraclone's Certificate of Incorporation) fails to purchase at the Second Closing (as defined in Theraclone's Certificate of Incorporation) the number of shares of Series B-1 preferred stock set forth opposite such holder's name on Exhibit A to the Purchase Agreement (as defined in Theraclone's Certificate of Incorporation). The conversion formula for the mandatory conversion of preferred stock is also set forth in Theraclone's Certificate of Incorporation.<br>In addition, the conversion price of each applicable series of preferred stock are subject to adjustments as further provided in Theraclone's Certificate of Incorporation. | |

| | Theraclone | PharmAthene |
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| Stockholder Approval Rights | Theraclone's Certificate of Incorporation provides that, unless otherwise provided by law, preferred stock shall vote together with all other classes and series of stock of the corporation as a single class on all actions to be taken by the stockholders of the corporation, including amending the certificate of incorporation of the corporation to increase the number of authorized shares of common stock. Theraclone's Certificate of Incorporation also provides that each holder of outstanding shares of preferred stock shall be entitled to cast the number of votes equal to the number of shares of common stock (including fraction of a share) into which the shares of preferred stock held by such holder are convertible as of the record date of determining stockholders entitled to vote on such matter. Theraclone's Certificate of Incorporation provides that where approval of stockholders is required by law, the affirmative vote of the holders of at least a majority of the voting power of the then outstanding preferred stock shall be required to authorize the corporation (i) to (a) increase or decrease the total number of authorized shares of common stock or preferred stock or (b) create, or authorize the creation of, issue or sell, or obligate the corporation to issue or sell, any other security having a preference senior to or on a parity with the preferred stock with respect to dividends, rights upon liquidation, dissolution or winding up of the corporation, or redemption, whether any such creation, authorization, issuance or sale shall be by means of amendment to Theraclone's Certificate of Incorporation or otherwise; (ii) to liquidate, dissolve or wind up the corporation, whether voluntary or involuntary, or effect any Deemed | PharmAthene's Certificate of Incorporation provides that, except as otherwise required by law or as otherwise provided in any preferred stock designation, the holders of PharmAthene's common stock have exclusive possession of all voting power and each share of common stock has one vote. The Certificate of Incorporation provides that the PharmAthene Board of Directors may issue shares of preferred stock and in connection with such issuance fix such voting powers, full or limited, as shall be stated and expressed in the resolution or resolutions adopted by the PharmAthene Board of Directors providing for such issuance and as may be permitted bythe DGCL. The Certificate of Incorporation furthermore states that the number of authorized shares of preferred stock may be increased or decreased (but not below the number of shares of preferred stock then outstanding) by the affirmative vote of the holders of a majority in the voting power or all of the then outstanding shares of PharmAthene's capital stock entitled to vote generally in the election of directors, voting together as a single class, without a separate vote of the holders of the preferred stock, or any series of preferred stock, unless a vote of any such holders is required under any preferred stock designation. The PharmAthene Certificate of Incorporation provides that any contract or act that is approved or ratified by the vote of the holders of a majority of PharmAthene's stock which is represented in person or by proxy at the meeting at which the approval or ratification is considered, and entitled to vote thereat (provided that a lawful quorum of stockholders is represented in person or by proxy) is as valid and binding upon PharmAthene and its stockholders as though it had been approved or ratified by every PharmAthene stockholder, |

| | Theraclone | PharmAthene |
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| | Liquidation Event (as defined in Theraclone's Certificate of Incorporation); (iii) to amend, alter, repeal or add any provision to Theraclone's Certificate of Incorporation or Bylaws, including to change the rights of the preferred stock; (iv) to purchase or set aside any sum for the purchase of, redeem or otherwise acquire or pay any dividend or make any distribution on, any shares of stock other than the preferred stock consistent with the terms of Theraclone's Certificate of Incorporation, other than the purchase of shares of common stock from former employees or former consultants of the corporation who acquired such shares directly from the corporation, if each such purchase is made pursuant to contractual rights held by the corporation relating to the termination of employment of such former employer or the business relationship of such former consultant that are approved by the Theraclone board of directors; (v) to redeem or acquire any shares of preferred stock except as expressly authorized by Theraclone's Certificate of Incorporation; (vi) to change the rights of the holders of the preferred stock if the effect would be detrimental or adverse in any manner with respect to the rights of the holders of such series of preferred stock; (vii) to materially change the nature of the corporation's business; (viii) to materially amend or alter the corporation's equity incentive plan, | whether or not the contract or act would otherwise be open to legal attack because of directors' interests, or for any other reason. PharmAthene's Bylaws provide that all elections will be determined by plurality votes and that, except as otherwise provided by law or in the Certificate of Incorporation or the Bylaws, any other matter will be determined by the vote of a majority of the shares which are voted with regard to it.<br>PharmAthene's Certificate of Incorporation furthermore provides that, if a compromise or arrangement is proposed between PharmAthene and its creditors or any class of them and/or between PharmAthene and its stockholders or any class of them, and if a majority in number representing ¾^ in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of PharmAthene, as the case may be, agree to any compromise or arrangement and to any reorganization of PharmAthene as a consequence of the compromise or arrangement, the compromise or arrangement and the reorganization, if sanctioned by the court to which application was made, is binding on all the creditors or class of creditors and/or stockholders or class of stockholders of PharmAthene, as the case may be, and also on PharmAthene. |

| | Theraclone | PharmAthene |
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| | including to increase the aggregate number of shares issuable under allsuch equity plan above 9,753,966 shares of common stock; (ix) to incur indebtedness for borrowed funds, in a single transaction or related series of transactions, in principal amount at any time outstanding in excess of$150,000 other than any indebtedness incurred pursuant to that certain Credit and Security Agreement between the corporation, MidCap Funding III, LLC and certain lenders dated on or about the date of the filing of Theraclone's Certificate of Incorporation; or (x) to reclassify any outstanding capital stock into shares having rights, preferences, privilege or priority senior to or on parity with the preferences of the preferred stock with respect to dividends, rights upon liquidation, dissolution or winding up of the corporation, or redemption, whether any such reclassification shall be by means of amendment to Theraclone's Certificate of Incorporation or by merger, consolidation or otherwise. | |

| | Theraclone | PharmAthene |
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| Number of Directors and Election | Theraclone's Certificate of Incorporation provides that without the prior affirmative vote of the holders of at least a majority of the voting power of the then outstanding preferred stock, the corporation shall not increase or decrease the number of directors constituting the Theraclone board of directors to a number other than six. The holders of record of the shares of Series B-1 preferred stock, exclusively as a separate class, shall be entitled to elect four directors of the corporation and the holders of record of the shares of Series A-1 preferred stock, exclusively as a separate class, shall be entitled to elect the balance of the total number of directors of the corporation. Avacancy in any directorship filled by the holders of such class or series shall only be filled by the holders of such class or series. Theraclone's Bylaws provide that if any at any time, by reason of death or resignation or other cause, the corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of stockholders in accordance with the provisions of Theraclone's Certificate of Incorporation or Bylaws, or may apply to the Delaware Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the DGCL. If at the time of filling any vacancy or any newly created directorship, the directors then in office shall | PharmAthene's Bylaws provide that the number of directors which will constitute the entire Board of Directors will be such number, not less than one nor more than nine, as shall be determined by the Board ofDirectors from time to time, provided that in the event the outstanding shares of stock are owned by fewer than three stockholders, the number of directors may be a number not less than the number of stockholders. Except in the case of a vacancy, the directors shall be elected at the annual meeting of stockholders. Except as otherwise provided by law, the Certificate of Incorporation, or the Bylaws, each director elected will serve until the next succeeding annual meeting of stockholders and until his successor is elected and qualified. Finally, PharmAthene's Bylaws provide that newly created directorships resulting from an increase in the number of directors and vacancies occurring in the PharmAthene Board of Directors may be filled by vote of a majority of the directors then in office, even if less than a quorum exists. A director elected to fill a vacancy, including a vacancy created by a newly created directorship, shall serve until the next succeeding annual meeting of stockholders and until his successor is elected and qualified. |

| | Theraclone | PharmAthene |
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| | constitute less than a majority of the whole board (as constituted immediately prior to such increase), the Delaware Court of Chancery may, upon application of any stockholders or stockholders holding at least ten percent of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office. | |
| Removal of Directors | Theraclone's Bylaws provides that unless otherwise provided by law or by Theraclone's Certificate of Incorporation, any director or the entire Theraclone board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors. However, if the stockholders of the corporation are entitled to cumulative voting, if less than the entire Theraclone board of directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire Theraclone board of directors. | PharmAthene's Bylaws provide that any of the directors may be removed for cause by vote of a majority of the PharmAthene Board of Directors. Any or all of the directors may be removed for cause or without cause by vote of the holders of a majority of the outstanding shares of each class of PharmAthene voting stock voting as a class. |

| | Theraclone | PharmAthene |
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| Stockholder Action by Written Consent | Theraclone's Bylaws provide that any action required or permitted to be taken at meeting of stockholders of a corporation may be taken without a meeting, without prior notice and without a vote if a consent in writing, setting forth the action so taken, is (i) signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting and (ii) delivered to the corporation in accordance with Section 228(a) of the DGCL. | PharmAthene's Bylaws provide that, whenever the vote of stockholders at a meeting is required or permitted in connection with any corporate action, the meeting and vote may be dispensed with if the action taken has the written consent of the holders of shares having at least the minimum number of votes required to authorize the action at a meeting at which all shares entitled to vote were present and voted. |
| Amendment of Charter and Bylaws | Theraclone's Certificate of Incorporation provides that, in addition to any other vote required by law, the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of preferred stock of the corporation, voting together as a single class, shall be required to amend, alter, repeal or add any provision to Theraclone's Certificate of Incorporation or Bylaws, including to change the rights of the preferred stock. | Under the DGCL, the affirmative vote of the holders of a majority of the PharmAthene capital stock outstanding and entitled to vote is required to approve an amendment to PharmAthene's Certificate of Incorporation. Under PharmAthene's Bylaws, the Bylaws may be amended or repealed, and new Bylaws may be adopted, amended or repealed (a) at any regular or special meeting of stockholders, or (b) by the affirmative vote of a majority of the PharmAthene Board of Directors at any regular or special meeting of the PharmAthene Board of Directors. |

| | Theraclone | PharmAthene |
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| Cumulative Voting | The DGCL states that the Certificate of Incorporation may provide for cumulative voting. Theraclone's Certificate of Incorporation does not provide for cumulative voting. | The DGCL states that the Certificate of Incorporation may provide for cumulative voting. PharmAthene's Certificate of Incorporation does not provide for cumulative voting. |
| Limitation of Personal Liability of Directors | Theraclone's Certificate of Incorporation provides that the personal liability of the directors for monetary damages for breach of fiduciary duty as a director shall be eliminated. However, to the extent provided by applicable law, the foregoing shall not eliminate the liability of a director (i) for any breach of such director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of DGCL, or (iv) for any transaction from which such director derived an improper personal benefit. | PharmAthene's Certificate of Incorporation provides that directors are not personally liable for monetary damages for breach of fiduciary duty by such director as a director, except for liability (i) for any breach of the director's duty of loyalty, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which such director derived an improper personal benefit. If the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of PharmAthene will be eliminated or limited to the fullest extent permitted by the DGCL, as so amended. |
| Indemnification of Officers and Directors | Theraclone's Certificate of Incorporation and Bylaws provide that the corporation shall indemnify its officers and directors to the fullest extent permitted under DGCL. | PharmAthene's Certificate of Incorporation and Bylaws provide that PharmAthene, to the full extent permitted by Section 145 of the DGCL, as amended from time to time, shall indemnify all persons whom it may indemnify pursuant to that section, which persons include its directors and officers. |

| | Theraclone | PharmAthene |
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| Special Meeting of Stockholders | Theraclone's Bylaws provide that special meetings of the stockholders may be called, at any time, by (a) any one member of the Theraclone Board of Directors, including the Chairman of the Board, (b) the President or (c) by one more stockholders owning at least ten percent (10%) of the capital stock of Theraclone issued and outstanding, and entitled to vote. | PharmAthene's Bylaws provide that special meetings of stockholders may be called at anytime for any purpose or purposes by the PharmAthene Board of Directors or by the Chief Executive Officer, and shall be called by the Chief Executive Officer, President or the Secretary upon the written request of the majority of the directors or upon the written request of the holders of at least 10% of all outstanding shares entitled to vote on the action proposed to be taken. A special meeting of stockholders called by the Board of Directors or the President, other than one required to be called by reason of a written request of stockholders, may be cancelled by the Board of Directors at any time not less than 24 hours before the scheduled commencement of the meeting. |
| Notice of Stockholder Meeting | Theraclone's Bylaws provide that a written notice of the stockholders' meeting shall be given to each stockholder entitled to vote at such meeting not less than ten nor more than sixty days before the date of the meeting. Such notice shall state the place (if any), date and hour of the meeting, and in the case of a special meeting, the purpose or purposes for which the meeting is called. | PharmAthene's Bylaws provide that written notice of each annual meeting or special meeting of stockholders, stating the place, date and time of the meeting, and (i) in the case of a special meeting, the general nature of the business to be transacted, or (ii) in the case of the annual meeting, those matters that the PharmAthene Board of Directors, at the time of giving notice, intends to present for action by the stockholders, must be given in the manner set forth in the Bylaws not less than ten nor more than sixty days before the date of the meeting to each stockholder entitled to vote at the meeting. If directors are to be elected, the notice shall include the names of all nominees whom the PharmAthene Board of Directors intends, at the time of notice, to present for election. The notice shall also state the general nature of any proposed action to be taken at the meeting. |

| | Theraclone | PharmAthene |
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| Quorum of Stockholder Meetings | Theraclone's Bylaws provide that a majority of the shares of stock issued and outstanding and entitled to vote at any meeting of stockholders, the holders of which are present in person or represented by proxy, shall constitute a quorum for the transaction of business except as otherwise provided by law or by Theraclone's Certificate of Incorporation. | PharmAthene's Bylaws provide that, except as otherwise required by law or the Certificate of Incorporation, the presence in person or by proxy of holders of a majority of the shares entitled to vote at a meeting of stockholders will be necessary, and will constitute a quorum, for the transaction of business at such meeting. |
| Stockholder Preemptive Rights | The DGCL does not provide for stockholder preemptive rights, unless the Certificate of Incorporation provides otherwise. Certain holders of preferred stock have the right to acquire certain securities proposed to be issued by the corporation under circumstances pursuant to and in accordance with the terms and conditions of that certain amended and restated Investor Rights Agreement dated as of March 11, 2013 by and among the corporation and the other parties thereto. | The DGCL does not provide for stockholder preemptive rights, unless the Certificate of Incorporation provides otherwise. PharmAthene's Certificate of Incorporation provides that the PharmAthene Board of Directors may issue shares of preferred stock and in connection with such issuance fix such designations, preferences and relative, participating, option or other special rights as shall be stated and expressed in the resolution or resolutions adopted by the PharmAthene Board of Directors providing for such issuance and as may be permitted by the DGCL. |

| | Theraclone | PharmAthene |
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| Rights of Dissenting Stockholders | The DGCL allows for appraisal rights only inconnection with certain mergers or consolidations. No such appraisal rights exist, however, for corporations whose shares are held of record by more than 2,000 stockholders or are listed on a national securities exchange, unless the Certificate of Incorporation provides that appraisal rights are available to the stockholders or the stockholders are to receive in the merger of consolidation anything other than (a) shares of stock of the corporation surviving or resulting from such merger or consolidation, (b) shares of stock of any other corporation which at the effective date of the merger or consolidation will be either listed on a national securities exchange or held of record by more than 2,000 stockholders, (c) cash in lieu of fractional shares of the corporation described in the foregoing clauses (a) and (b), or (d) any combination of (a), (b), or (c). | The DGCL allows for appraisal rights only in connection with certain mergers or consolidations. No such appraisal rights exist, however, for corporations whose shares are held of record by more than 2,000 stockholders or are listed on a national securities exchange, unless the Certificate of Incorporation provides that appraisal rights are available to the stockholders or the stockholders are to receive in the merger of consolidation anything other than (a) shares of stock of the corporation surviving or resulting from such merger or consolidation, (b) shares of stock of any other corporation which at the effective date of the merger or consolidation will be either listed on a national securities exchange or held of record by more than 2,000 stockholders, (c) cash in lieu of fractional shares of the corporation described in the foregoing clauses (a) and (b), or (d) any combination of (a), (b), or (c). |
| Certain Business Combinations/ Anti-Takeover Provisions | Under Delaware law, a privately held corporation is not subject to Section 203 of the DGCL, which generally protects publicly held Delaware corporations from unfair transactions and tactics by persons who acquire large blocks of stock without prior Board approval, unless its Certificate of Incorporation otherwise provides. | Under Delaware law, a corporation can elect not to be governed by Section 203 of the DGCL, which generally protects publicly held Delaware corporations from unfair transactions and tactics by persons who acquire large blocks of stock without prior board approval. PharmAthene has elected not to be governed by Section 203 of the DGCL. |

## LEGAL MATTERS

The validity of the shares of PharmAthene common stock offered by this proxy statement/prospectus/consent solicitation has been passed upon for PharmAthene by Dentons US LLP. The material U.S. federal income tax consequences of the merger have been passed upon for PharmAthene by Dentons US LLP and for Theraclone by Fenwick & West LLP.

## EXPERTS

The consolidated financial statements of PharmAthene, Inc. as of December 31, 2012 and 2011, and for each of the three years in the period ended December 31, 2012, included in the Proxy Statement of PharmAthene, Inc., which is referred to and made a part of this Prospectus and Registration Statement, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report appearing elsewhere herein , and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The financial statements of Theraclone Sciences, Inc. as of and for the years ended December 31, 2012 and 2011, included in the Proxy Statement of PharmAthene, Inc., which is referred to and made a part of this Prospectus and Registration Statement, have been audited by Ernst & Young LLP, independent auditors, as stated in their report appearing elsewhere herein, and is included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

## WHERE YOU CAN FIND ADDITIONAL INFORMATION

PharmAthene has filed with the SEC a registration statement on Form S-4, of which this proxy statement/prospectus/consent solicitation is a part, under the Securities Act, to register the issuance of PharmAthene common stock in the merger. However, this proxy statement/prospectus/consent solicitation does not contain all of the information contained in the registration statement and the exhibits and schedules to the registration statement. PharmAthene and Theraclone encourage you to carefully read the registration statement and the exhibits and schedules to the registration statement.

As a public company, PharmAthene is required to file annual, quarterly and current reports, proxy statements and other information with the SEC. These filings are available to the public via the Internet at the SEC's website at *http://www.sec.gov.* PharmAthene's materials are also on file with the SEC and may be obtained for reading and/or copying at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room.

**You should rely only on the information contained in this proxy statement/prospectus/consent solicitation to vote your shares at the special meeting or by written consent. Neither PharmAthene nor Theraclone has authorized anyone to provide you with information that differs from that contained in this proxy statement/prospectus/consent solicitation. You should not assume that the information contained in this proxy statement/prospectus/consent solicitation is accurate as of any date other than the date of this proxy statement/prospectus/consent solicitation, and neither the mailing of this proxy statement/prospectus/consent to stockholders nor the issuance of shares of PharmAthene common stock in the merger will create any implication to the contrary.**

## OTHER MATTERS

### Stockholder Proposals for 2014 Annual Meeting

In order for a stockholder proposal to be considered for inclusion in PharmAthene's proxy statement for the 2014 annual meeting pursuant to Rule 14a-8 of the SEC, the proposal must be received at PharmAthene's offices no later than the close of business on December 31, 2013. If PharmAthene changes the date of its 2014 annual meeting by more than 30 days from the date of the 2013 annual meeting, then the deadline is a reasonable time before PharmAthene begins to print and send its proxy materials. Upon any determination that the date of the 2014 annual meeting will be advanced or delayed by more than 30 days from the date of the 2013 annual meeting, PharmAthene will disclose the change in the earliest practicable Quarterly Report on Form 10-Q.

For any proposal that is not submitted for inclusion in next year's proxy statement by the deadline identified above, SEC rules permit management to vote proxies in its discretion if PharmAthene: (i) receives

notice of the proposal more than 45 days prior to the first anniversary of the date PharmAthene first sent its proxy materials for the 2013 annual meeting of stockholders, which would be March 16, 2014, and PharmAthene advises stockholders in next year's annual meeting proxy statement about the nature of the matter and how management intends to vote on such matter (subject to the right of the proposing stockholder to deliver a proxy statement and proxy of its own in compliance with the terms of Rule 14a-4(c)(2) under the Exchange Act), or (ii) does not receive notice of the proposal at least 45 days prior to the first anniversary of the date PharmAthene first sent its proxy materials for the 2013 annual meeting of stockholders, which would be March 16, 2014. If PharmAthene changes the date of its 2014 annual meeting by more than 30 days from the date of the 2013 annual meeting, then the deadline is a reasonable time before it begins to print and send its proxy materials.

Any stockholder who wishes to submit a stockholder proposal should send it to PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary.

## HOUSEHOLDING OF PROXY MATERIALS

Beneficial owners of common stock who share a single address may receive only one copy of the Notice or the proxy materials, as the case may be, unless their broker, bank or nominee has received contrary instructions from any beneficial owner at that address. This practice, known as "householding," is designed to reduce printing and mailing costs. If any beneficial owner(s) at such an address wish to discontinue householding and receive a separate copy of the Notice or the proxy materials, as the case may be, or if beneficial owners sharing an address who are currently receiving separate copies wish to receive only one copy, they may contact Broadridge, either by calling (800) 579-1639, or by writing to Broadridge, Householding Department, 51 Mercedes Way, Edgewood, New York, 11717.

**PHARMATHENE, INC.**

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

## CONSOLIDATED FINANCIAL STATEMENTS

Board of Directors and Stockholders of
PharmAthene, Inc.

We have audited the accompanying consolidated balance sheets of PharmAthene, Inc. as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2012. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of PharmAthene, Inc. at December 31, 2012 and 2011, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), PharmAthene, Inc.'s internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 13, 2013 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Baltimore, Maryland
March 13, 2013

**PHARMATHENE, INC.**

**CONSOLIDATED BALANCE SHEETS**

| | December 31, | |
|---|---|---|
| | 2012 | 2011 |
| **ASSETS** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 12,701,517 | $ 11,236,771 |
| Accounts receivable (billed) | 2,432,641 | 4,424,442 |
| Unbilled accounts receivable | 4,114,442 | 3,021,208 |
| Prepaid expenses and other current assets | 547,245 | 830,585 |
| Restricted cash | — | 100,000 |
| Total current assets | 19,795,845 | 19,613,006 |
| Property and equipment, net | 483,976 | 788,666 |
| Other long-term assets and deferred costs | 113,130 | 53,384 |
| Goodwill | 2,348,453 | 2,348,453 |
| Total assets | $ 22,741,404 | $ 22,803,509 |
| **LIABILITIES AND STOCKHOLDERS' EQUITY** | | |
| Current liabilities: | | |
| Accounts payable | $ 1,697,280 | $ 1,445,700 |
| Accrued expenses and other liabilities | 2,328,877 | 2,655,330 |
| Deferred revenue | 1,381,755 | 514,312 |
| Current portion of long-term debt | 749,997 | — |
| Short-term debt | 1,330,507 | — |
| Total current liabilities | 7,488,416 | 4,615,342 |
| Other long-term liabilities | 579,427 | 449,709 |
| Long-term debt, less current portion | 1,704,108 | — |
| Derivative instruments | 1,295,613 | 1,886,652 |
| Total liabilities | 11,067,564 | 6,951,703 |
| Stockholders' equity: | | |
| Common stock, $0.0001 par value; 100,000,000 shares authorized; 48,352,651 and 48,236,172 shares issued and outstanding at December 31, 2012 and 2011, respectively | 4,835 | 4,824 |
| Additional paid-in-capital | 210,495,905 | 208,525,917 |
| Accumulated other comprehensive (loss) income | (217,328) | 1,010,522 |
| Accumulated deficit | (198,609,572) | (193,689,457) |
| Total stockholders' equity | 11,673,840 | 15,851,806 |
| Total liabilities and stockholders' equity | $ 22,741,404 | $ 22,803,509 |

The accompanying notes are an integral part of the consolidated financial statements.

**PHARMATHENE, INC.**

**CONSOLIDATED STATEMENTS OF OPERATIONS**

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| Revenue | $25,175,887 | $ 24,266,274 | $ 20,993,605 |
| Operating expenses: | | | |
| Research and development | 19,509,629 | 21,219,853 | 20,875,536 |
| General and administrative | 11,628,732 | 14,311,079 | 18,015,761 |
| Depreciation and amortization (including $4,635,489 of impairment charges in 2010) | 303,916 | 461,073 | 5,655,865 |
| Total operating expenses | 31,442,277 | 35,992,005 | 44,547,162 |
| Loss from operations | $ (6,266,390) | $(11,725,731) | $(23,553,557) |
| Other income (expense): | | | |
| Interest income | 17,808 | 16,660 | 6,955 |
| Interest expense | (342,561) | (54,573) | (5,936,480) |
| Gain on the sale of assets held for sale | — | 781,760 | — |
| Realization of cumulative translation adjustment | 1,227,656 | — | — |
| Change in fair value of derivative instruments | 591,039 | 7,144,983 | (5,457,550) |
| Other income, net | 47,862 | 39,328 | 91,355 |
| Total other income (expense) | 1,541,804 | 7,928,158 | (11,295,720) |
| Net loss before income taxes | (4,724,586) | (3,797,573) | (34,849,277) |
| Provision for income taxes | (195,529) | — | — |
| Net loss | $ (4,920,115) | $ (3,797,573) | $(34,849,277) |
| Basic and diluted net loss per share | $ (0.10) | $ (0.08) | $ (1.08) |
| Weighted average shares used in calculation of basic and diluted net loss per share | 48,323,067 | 47,331,763 | 32,309,621 |

The accompanying notes are an integral part of the consolidated financial statements.

**PHARMATHENE, INC.**

**CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS**

| | Year ended December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| Net loss | $(4,920,115) | $(3,797,573) | $(34,849,277) |
| Other comprehensive (loss) income: | | | |
| Realization of cumulative translation adjustment included in net loss | (1,227,656) | — | — |
| Foreign currency translation adjustments | (194) | (239,975) | 68,824 |
| Net unrealized losses on investments | — | — | (6,483) |
| Comprehensive loss | $(6,147,965) | $(4,037,548) | $(34,786,936) |

The accompanying notes are an integral part of the consolidated financial statements.

## PHARMATHENE, INC.

## CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

| | Common Stock Shares | Amount | Additional Paid-In Capital | Accumulated Other Comprehensive Income (Loss) | Accumulated Deficit | Stockholders' Equity |
|---|---|---|---|---|---|---|
| **Balance as of 12/31/2009** | 28,130,284 | $ 2,813 | $ 157,004,037 | $ 1,188,156 | $ (155,042,607) | $ 3,152,399 |
| Net loss | — | — | — | — | (34,849,277) | (34,849,277) |
| Net unrealized (losses) on short-term investments | — | — | — | (6,483) | — | (6,483) |
| Foreign currency translation adjustments | — | — | — | 68,824 | — | 68,824 |
| Issuance of common stock, net issuance costs | 9,397,382 | 940 | 19,471,084 | — | — | 19,472,024 |
| Exercise of stock purchase warrants | 14,537 | 1 | 2,698 | — | — | 2,699 |
| Share-based compensation – stock options | — | — | 2,292,479 | — | — | 2,292,479 |
| Shares issued upon exercise of stock options | 22,316 | 2 | 56,206 | — | — | 56,208 |
| Employee vesting of restricted shares, net | 84,742 | 9 | 191,486 | — | — | 191,495 |
| Conversion of July 2009 Convertible Debt | 8,588,983 | 859 | 21,829,478 | — | — | 21,830,337 |
| **Balance as of 12/31/2010** | 46,238,244 | $ 4,624 | $ 200,847,468 | $ 1,250,497 | $ (189,891,884) | $ 12,210,705 |
| Net loss | — | — | — | — | (3,797,573) | (3,797,573) |
| Foreign currency translation adjustments | — | — | — | (239,975) | — | (239,975) |
| Issuance of common stock, net issuance costs | 1,857,143 | 186 | 5,068,542 | — | — | 5,068,728 |
| Share-based compensation – stock options | — | — | 2,251,501 | — | — | 2,251,501 |
| Shares issued upon exercise of stock options | 44,464 | 4 | 118,305 | — | — | 118,309 |
| Employee vesting of restricted shares, net | 96,321 | 10 | 240,101 | — | — | 240,111 |
| **Balance as of 12/31/2011** | 48,236,172 | $ 4,824 | $ 208,525,917 | $ 1,010,522 | $ (193,689,457) | $ 15,851,806 |
| Net loss | — | — | — | — | (4,920,115) | (4,920,115) |
| Reclassification of the cumulative translation adjustment on substantial liquidation of PharmAthene Canada | — | — | — | (1,227,656) | — | (1,227,656) |
| Foreign currency translation adjustments | — | — | — | (194) | — | (194) |
| Share-based compensation – stock options | — | — | 1,803,427 | — | — | 1,803,427 |
| Shares issued upon exercise of stock options | 31,474 | 3 | 38,981 | — | — | 38,984 |
| Employee vesting of restricted shares, net | 85,005 | 8 | 57,704 | — | — | 57,712 |
| Warrants to purchase common stock issued in connection with issuance of long-term debt | — | — | 69,876 | — | — | 69,876 |
| **Balance as of 12/31/2012** | 48,352,651 | $ 4,835 | $ 210,495,905 | $ (217,328) | $ (198,609,572) | $ 11,673,840 |

The accompanying notes are an integral part of the consolidated financial statements.

**PHARMATHENE, INC.**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

| | Year ended December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| **Operating activities** | | | |
| Net loss | $ (4,920,115) | $ (3,797,573) | $(34,849,277) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | |
| Realization of cumulative translation adjustment | (1,227,656) | — | — |
| Bad debt (recovery) expense | — | (40,524) | 2,935,063 |
| Change in fair value of derivative instruments | (591,039) | (7,144,983) | 5,457,550 |
| Depreciation and amortization expense | 303,916 | 461,073 | 1,020,376 |
| Impairment of assets held for sale | — | — | 4,635,489 |
| Gain on the disposal of assets held for sale | — | (781,760) | — |
| Gain of the disposal of property and equipment | (66,626) | — | — |
| Share-based compensation expense | 1,894,099 | 2,565,961 | 2,513,159 |
| Deferred income taxes | 195,529 | — | — |
| Non-cash interest expense | 122,342 | — | 4,653,633 |
| Changes in operating assets and liabilities: | | | |
| Accounts receivable | 1,991,801 | 20,748 | 1,279,875 |
| Unbilled accounts receivable | (1,093,234) | 987,408 | 5,408,216 |
| Prepaid expenses and other current assets | 367,149 | 1,481,150 | (650,722) |
| Accounts payable | 251,561 | (1,682,461) | 1,245,975 |
| Accrued expenses and other liabilities | (418,076) | (391,904) | (8,513,914) |
| Deferred revenue | 867,443 | 514,312 | — |
| Net cash used in operating activities | (2,322,906) | (7,808,553) | (14,864,577) |
| **Investing activities** | | | |
| Purchases of property and equipment | — | (71,439) | (374,581) |
| Proceeds from the disposal of assets held for sale | — | 1,758,960 | — |
| Proceeds from the sale of property and equipment | 67,400 | — | — |
| Proceeds from sales of short-term investments | — | — | 3,130,588 |
| Net cash provided by investing activities | 67,400 | 1,687,521 | 2,756,007 |
| **Financing activities** | | | |
| Proceeds from issuance (repayment) of debt | 2,500,000 | — | (11,439) |
| Proceeds from revolving credit agreement | 1,330,507 | — | — |
| Deferred financing costs | (216,460) | — | — |
| Change in restricted cash requirements | 100,000 | — | (100,000) |
| Proceeds from issuance of common stock and warrants | 38,984 | 5,855,689 | 21,601,075 |
| Other | (32,960) | (74,361) | (29,184) |
| Net cash provided by financing activities | 3,720,071 | 5,781,328 | 21,460,452 |
| Effects of exchange rates on cash | 181 | (208,852) | (240,122) |
| Increases (decreases) in cash and cash equivalents | 1,464,746 | (548,556) | 9,111,760 |
| Cash and cash equivalents, at beginning of period | 11,236,771 | 11,785,327 | 2,673,567 |
| Cash and cash equivalents, at end of period | $12,701,517 | $11,236,771 | $ 11,785,327 |
| **Supplemental disclosure of cash flow information** | | | |
| Cash paid for interest | $ 220,219 | $ 54,573 | $ 1,234,142 |
| Cash paid for income taxes | $ — | $ 10,630 | $ — |
| **Financing activity** | | | |
| Value of warrants issued to lender in connection with loan | $ 69,876 | $ — | $ — |
| Value of warrants issued in connection with the issuance of common stock | $ — | $ 668,640 | $ 2,070,146 |

The accompanying notes are an integral part of the consolidated financial statements.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

## Note 1 — Organization and Business

We were formed in April 2005 as Healthcare Acquisition Corp. ("HAQ"), a special purpose acquisition company, formed solely to acquire a then unidentified business. On August 3, 2005, we consummated our initial public offering. On August 3, 2007, we acquired all the outstanding equity of PharmAthene, Inc., a Delaware Corporation, and changed our name from Healthcare Acquisition Corp. to PharmAthene, Inc. In March 2008, PharmAthene Inc., through its wholly owned subsidiary PharmAthene UK Limited, acquired substantially all the assets and liabilities related to the biodefense vaccines business of Avecia Biologics Limited.

We are incorporated under the laws of the State of Delaware and are a biopharmaceutical company focused on developing biodefense countermeasure applications. We are subject to those risks associated with any biopharmaceutical company that has substantial expenditures for research and development. There can be no assurance that our research and development projects will be successful, that products developed will obtain necessary regulatory approval, or that any approved product will be commercially viable. In addition, we operate in an environment of rapid technological change and are largely dependent on the services and expertise of our employees, consultants and other third parties.

Historically, we have performed under government contracts and grants and raised funds from investors (including additional debt and equity issued in 2012, 2011 and 2010) to sustain our operations. The Company has spent and will continue to spend substantial funds in the research, development, clinical and preclinical testing of the Company's product candidates with the goal of ultimately obtaining approval from the FDA, to market and sell our products. We may elect to raise additional capital through debt and or equity to strengthen our financial position.

## Note 2 — Summary of Significant Accounting Policies

### *Basis of Presentation*

Our consolidated financial statements include the accounts of PharmAthene, Inc. and its wholly owned subsidiaries. All significant intercompany transactions and balances have been eliminated in consolidation. Our consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States. We currently operate in one business segment. Certain receivables, primarily related to tax credits or grants, of approximately $0.5 million and $0.6 million as of December 31, 2011 and 2010 respectively, previously classified in our consolidated balance sheets as "accounts receivable," have been reclassified as "prepaid expenses and other current assets" to conform with current period presentation.

### *Use of Estimates*

The preparation of financial statements in conformity with generally accepted accounting principles in the United States ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Our consolidated financial statements include significant estimates for the expected economic life and value of our intangible assets, and the amount of our net operating losses, our share-based compensation, our financial instruments, among other things. Because of the use of estimates inherent in the financial reporting process, actual results could differ significantly from those estimates.

### *Foreign Currency Translation*

The functional currency of our wholly owned foreign subsidiaries is their local currency. Assets and liabilities of our foreign subsidiaries are translated into United States dollars based on exchange rates at the end of the reporting period. Income and expense items are translated at the weighted average exchange rates prevailing during the reporting period. Translation adjustments for subsidiaries that have not been sold, substantially liquidated or otherwise disposed of, are accumulated in other comprehensive income (loss), a

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

component of stockholders' equity. Foreign currency translation adjustments are the sole component of accumulated other comprehensive income (loss) at December 31, 2012 and 2011. Transaction gains or (losses) are included in the determination of net income or loss, and were approximately ($0.01) million, ($0.1) million and $0.1 million for the years ended December 31, 2012, 2011 and 2010, respectively.

In July 2012, we substantially liquidated our Canadian subsidiary, which we acquired in 2005. As a result, we realized approximately $1.2 million of income in our consolidated statement of operations, which represents the amount of previously recorded foreign currency translation adjustments related to our Canadian subsidiary.

***Comprehensive Loss and Accumulated Other Comprehensive Income***

Comprehensive loss includes the total of our net loss and all other changes in equity other than transactions with owners, including (i) changes in equity for cumulative translation adjustments resulting from the consolidation of foreign subsidiaries as the financial statements of the subsidiaries located outside of the United States are accounted for using the local currency as the functional currency, and (ii) unrealized gains and losses on short term available-for-sale investments.

Effective January 1, 2012, the Company adopted ASU 2011-05, *Comprehensive Income (Topic 220): Presentation of Comprehensive Income* (ASU 2011-05). As a result, the Company now presents comprehensive income (loss) in its consolidated financial statements as a single financial statement. The adoption of ASU 2011-05 did not affect the Company's consolidated results of operations, financial position, or liquidity.

***Cash and Cash Equivalents and Restricted Cash***

Cash and cash equivalents are stated at market value. We consider all highly liquid investments with original maturities of three months or less to be cash equivalents. Interest income earned on cash and cash equivalents and short-term investments was approximately $0.02 million, $0.02 million and $0.01 million in 2012, 2011 and 2010, respectively.

As of December 31, 2011 and 2010 we had $0.1 million in restricted cash associated with a letter of credit to support our corporate credit card program. As of December 31, 2012, none of our cash was restricted.

***Concentration of Credit Risk***

Financial instruments that potentially subject us to concentrations of credit risk are primarily cash, restricted cash and cash equivalents, and billed and unbilled accounts receivable. We maintain our cash, restricted cash and cash equivalents in the form of money market accounts and overnight deposits with financial institutions that we believe are credit worthy. Because our billed and unbilled accounts receivable consist of amounts due from the U.S. federal government, management deems there to be minimal credit risk.

***Revolving Line of Credit and Term Loan***

As discussed further in Note 6, we entered into a loan agreement with General Electric Capital Corporation ("GE Capital") in March 2012. As part of that agreement, we issued stock purchase warrants to GE Capital that expire in March 2022. The fair value of the warrants was charged to additional paid-in-capital, resulting in a debt discount at the date of issuance. The debt discount is being amortized over the term of the loan agreement using the effective interest method. Financing costs incurred in connection with this agreement are being amortized over the term of the agreement using the effective interest method. The amortization of both the debt discount and deferred financing costs are included in interest expense in the consolidated statement of operations.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

***Significant Customers and Accounts Receivable***

Our primary customers are the U.S. Department of Defense (the "DoD"), Chemical Biological Medical Systems ("CBMS"), the National Institute of Allergy and Infectious Diseases ("NIAID"), the Biomedical Advanced Research and Development Authority ("BARDA"), and the National Institute of Health ("NIH").

As of December 31, 2012 and 2011, the Company's trade receivable balances were comprised solely of receivables from these customers. Unbilled accounts receivable totaling $4.1 million and $3.0 million as of December 31, 2012 and 2011, respectively, relate to the contracts with these same customers.

***Property and Equipment***

Property and equipment consist of leasehold improvements, furniture and office equipment and computer and other equipment and are recorded at cost. Leasehold improvements are amortized over the economic life of the asset or the lease term, whichever is shorter. Property and equipment are depreciated using the straight-line method over the estimated useful lives of the respective assets as follows:

| Asset Category | Estimated Useful Life (in Years) |
|---|---|
| Leasehold improvements | 8 – 10 |
| Furniture and office equipment | 5 |
| Computer and other equipment | 3 – 5 |

***Impairment of Long-Lived Assets***

Long-lived assets consist primarily of property and equipment. We review long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. Recoverability measurement and estimating of undiscounted cash flows is done at the lowest possible level for which we can identify assets. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of assets exceeds the fair value of the assets.

In the fourth quarter of 2010, we realized an impairment of certain assets associated with the closing of our Canadian operations upon the expiration of the Protexia® contract with the DoD. As a result we recognized an impairment charge of approximately $4.6 million which is included in depreciation and amortization expense in the accompanying 2010 consolidated statement of operations. The remaining assets consisting of land and buildings of approximately $1.0 million were reclassified as assets held for sale as of December 31, 2010, and subsequently sold in 2011.

***Exit Activities***

In the fourth quarter 2011, we recognized a gain on the sale of assets of PharmAthene Canada of approximately $0.8 million, which is included in 2011 in the consolidated statement of operations. We substantially completed the liquidation of our Canadian subsidiary in July 2012 and at that time realized approximately $1.2 million of accumulated foreign currency translation adjustments, which is included in 2012, in the consolidated statement of operations and the consolidated statement of comprehensive loss.

***Fair Value of Financial Instruments***

The carrying amounts of our short term financial instruments, which primarily include cash and cash equivalents, restricted cash, accounts receivable (billed and unbilled), other current assets, accounts payable, accrued and other liabilities, and short term debt, approximate their fair values due to their short maturities. The fair value of our long-term indebtedness is estimated based on the current rates offered to the Company for debt of the same remaining maturities. See Note 3 for further details.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

***Goodwill and Intangible Assets***

Goodwill represents the excess of purchase price over the fair value of net identifiable assets associated with acquisitions. We review the recoverability of goodwill by comparing our market value (as measured by our stock price multiplied by the number of outstanding shares as of the end of the year) to the net book value of our equity. If our market value exceeds our net book value, no further analysis is required. Changes in our business strategy or adverse changes in market conditions could impact the impairment analyses and require the recognition of an impairment charge equal to the excess of the carrying value over its estimated fair value. We completed our annual impairment assessment of goodwill on December 31, 2012 and determined that there was no impairment as of that date.

In 2010 we recognized an impairment charge of $0.8 million associated with our patents related to Protexia® as a result of our decision to shut down the Canadian operation upon the expiration of the Protexia® contract with the DoD. The impairment charge is included within depreciation and amortization in 2010, in our consolidated statement of operations.

***Revenue Recognition***

We generate our revenue from different types of contractual arrangements: cost-plus-fee contracts, cost reimbursable grants and fixed price contracts.

Revenues on cost-plus-fee contracts are recognized in an amount equal to the costs incurred during the period plus an estimate of the applicable fee earned. The estimate of the applicable fee earned is determined by reference to the contract: if the contract defines the fee in terms of risk-based milestones and specifies the fees to be earned upon the completion of each milestone, then the fee is recognized when the related milestones are earned, as further described below; otherwise, we estimate the fee earned in a given period by using a proportional performance method based on costs incurred during the period as compared to total estimated project costs and application of the resulting fraction to the total project fee specified in the contract.

Under the milestone method of revenue recognition, milestone payments (including milestone payments for fees) contained in research and development arrangements are recognized as revenue when: (i) the milestones are achieved; (ii) no further performance obligations with respect to the milestone exist; (iii) collection is reasonably assured; and (iv) substantive effort was necessary to achieve the milestone.

Milestones are considered substantive if all of the following conditions are met:

- it is commensurate with either our performance to meet the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from our performance to achieve the milestone,
- it relates solely to past performance,
- the value of the milestone is reasonable relative to all the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

If a milestone is deemed not to be substantive, the Company recognizes the portion of the milestone payment as revenue that correlates to work already performed; the remaining portion of the milestone payment is deferred and recognized as revenue as the Company completes its performance obligations.

Revenue on fixed price contracts (without substantive milestones as described above) is recognized on the percentage-of-completion method. The percentage-of-completion method recognizes income as the contract progresses (generally related to the costs incurred in providing the services required under the contract). The use of the percentage-of-completion method depends on the ability to make reasonable dependable estimates

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

and the fact that circumstances may necessitate frequent revision of estimates does not indicate that the estimates are unreliable for the purpose for which they are used.

As a result of our revenue recognition policies and the billing provisions contained in our contracts, the timing of customer billings may differ from the timing of recognizing revenue. Amounts invoiced to customers in excess of revenue recognized are reflected on the balance sheet as deferred revenue. We recorded approximately $1.4 million and $0.5 million as deferred revenue as of December 31, 2012 and 2011. Amounts recognized as revenue in excess of amounts billed to customers are reflected on the balance sheet as unbilled accounts receivable.

We analyze each cost reimbursable grant to determine whether we should report such reimbursements as revenue or as an offset to our expenses incurred. For the years ended December 31, 2012, 2011 and 2010, we recorded approximately $1.1 million, $0.7 million and $2.9 million, respectively, of costs reimbursed by the government as a reduction of research and development expenses. Included in the 2010 grants was approximately $0.9 million in therapeutic discovery tax grants, which was offset against research and development expense in 2010.

***Collaborative Arrangements***

Even though most of our products are being developed in conjunction with support by the U.S. Government, we are an active participant in that development, with exposure to significant risks and rewards of commercialization relating to the development of these pipeline products. In collaborations where we are deemed to be the principal participant of the collaboration, we recognize costs and revenues generated from third parties using the gross basis of accounting; otherwise, we use the net basis of accounting.

***Research and Development***

Research and development costs are expensed as incurred; advance payments are deferred and expensed as performance occurs. Research and development costs include salaries, facilities expense, overhead expenses, material and supplies, preclinical expense, clinical trials and related clinical manufacturing expenses, share-based compensation expense, contract services and other outside services.

***Share-Based Compensation***

We expense the estimated fair value of share-based awards granted to employees under our stock compensation plans. The fair value of stock options is determined at the grant date using an option pricing model. We have estimated the fair value of each stock option award using the Black-Scholes option pricing model. The Black-Scholes model considers, among other factors, the expected life of the award and the expected volatility of our stock price. The value of the award that is ultimately expected to vest is recognized as expense on a straight line basis over the employee's requisite service period.

The fair value of restricted stock grants is determined based on the closing price of our common stock on the award date and is recognized as expense ratably over the requisite service period.

Employee share-based compensation expense in 2012, 2011 and 2010 is calculated based on awards ultimately expected to vest and is reduced for estimated forfeitures at a rate of 12%.

Share-based compensation expense for 2012, 2011 and 2010 is as follows:

| | Year ended December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| Research and development | $ 518,375 | $ 754,554 | $ 1,008,368 |
| General and administrative | 1,375,724 | 1,811,407 | 1,504,791 |
| Total share-based compensation expense | $ 1,894,099 | $ 2,565,961 | $ 2,513,159 |

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

During 2012, we granted 852,139 options to employees and non-employee directors and made no restricted stock grants. At December 31, 2012, we had total unrecognized share-based compensation expense related to unvested awards of options and restricted shares of approximately $2.3 million, net of estimated forfeitures, which we expect to recognize as expense over a weighted-average period of 2.36 years.

During the years ended December 31, 2012, 2011 and 2010, we received $38,984, $118,309 and $56,208 from stock options exercised, respectively.

***Income Taxes***

We account for income taxes using the asset and liability approach, which requires the recognition of future tax benefits or liabilities on the temporary differences between the financial reporting and tax bases of our assets and liabilities. A valuation allowance is established when necessary to reduce deferred tax assets to the amounts expected to be realized. We also recognize a tax benefit from uncertain tax positions only if it is "more likely than not" that the position is sustainable based on its technical merits. Our policy is to recognize interest and penalties on uncertain tax positions as a component of income tax expense. As of December 31, 2012 and 2011, we had recognized a full valuation allowance since the likelihood of realization of our tax deferred assets does not meet the more likely than not threshold.

For the year ended December 31, 2012, we incurred income tax expense of approximately $0.2 million relating exclusively to the generation of a deferred tax liability associated with the amortization of goodwill, which is included as a component of other long-term liabilities on our consolidated balance sheets. There was no income tax expense for the periods ended December 31, 2011 or 2010.

We file a U.S. federal income tax return as well as returns for various state and foreign jurisdictions. Our income taxes have not been examined by any tax jurisdiction since our inception. Uncertain tax positions taken on our tax returns are accounted for as liabilities for unrecognized tax benefits. We recognize interest and penalties, if any, related to unrecognized tax benefits in other income (expense) in the consolidated statements of operations.

***Basic and Diluted Net Loss Per Share***

*Income (loss) per share:* Basic income (loss) per share is computed by dividing consolidated net income (loss) by the weighted average number of common shares outstanding during the period, excluding unvested restricted stock.

For periods of net income when the effects are not anti-dilutive, diluted earnings per share is computed by dividing our net income by the weighted average number of shares outstanding and the impact of all potential dilutive common shares, consisting primarily of stock options, unvested restricted stock and stock purchase warrants. The dilutive impact of our dilutive potential common shares resulting from stock options and stock purchase warrants is determined by applying the treasury stock method.

For the periods of net loss, diluted loss per share is calculated similarly to basic loss per share because the impact of all dilutive potential common shares is anti-dilutive due to the net losses. Approximately 11.9 million, 12.0 million and 10.7 million potential dilutive shares have been excluded in the calculation of diluted net loss per share in 2012, 2011 and 2010, respectively, because their inclusion would be anti-dilutive.

***Recent Accounting Pronouncements***

Effective January 1, 2012, the Company adopted ASU 2011-05, *Comprehensive Income (Topic 220): Presentation of Comprehensive Income* (ASU 2011-05). As a result, the Company now presents comprehensive income (loss) in its consolidated financial statements as a single financial statement. The adoption of ASU 2011-05 did not affect the Company's consolidated results of operations, financial position, or liquidity.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

Effective January 1, 2012, the Company adopted ASU 2011-04, *Fair Value Measurement (Topic 820)* ("ASU 2011-04"), which contains amendments to achieve common fair value measurement and disclosures in U.S. GAAP and International Financial Reporting Standards. ASU 2011-04 explains how to measure fair value for financial reporting. The guidance does not require fair value measurements in addition to those already required or permitted by other Topics. The adoption of ASU 2011-04 did not have any effect on the Company's condensed consolidated results of operations, financial position or liquidity.

Effective January 1, 2012, the Company adopted ASU 2011-08, *Intangibles-Goodwill and Other (Topic 350)* (ASU 2011-08). Previous guidance required an entity to test goodwill for impairment, on at least an annual basis, by comparing the fair value of a reporting unit with its carrying amount, including goodwill. If the fair value of a reporting unit is less than its carrying amount, then a second step of the test must be performed to measure the amount of the impairment loss, if any. Under the amendments in ASU 2011-08, an entity is not required to calculate the fair value of a reporting unit unless the entity determines that it is more likely than not that its fair value is less than its carrying amount. The adoption of ASU 2011-08 did not have a material effect on our results of operations, financial position or cash flows.

In, February 2013, the FASB issued ASU 2013-02, Comprehensive Income (Topic 220): Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income. The objective of this update is to improve the reporting of reclassifications out of accumulated other comprehensive income. The amendments in this Update seek to attain that objective by requiring an entity to report the effect of significant reclassifications out of accumulated other comprehensive income on the respective line items in net income if the amount being reclassified is required under U.S. GAAP to be reclassified in its entirety to net income. For other amounts that are not required under U.S. GAAP to be reclassified in their entirety to net income in the same reporting period, an entity is required to cross-reference other disclosures required under U.S. GAAP that provide additional detail about those amounts. This would be the case when a portion of the amount reclassified out of accumulated other comprehensive income is reclassified to a balance sheet account (for example, inventory) instead of directly to income or expense in the same reporting period. ASU 2013-02 is effective prospectively for reporting periods beginning after December 15, 2012. Early adoption is permitted. The adoptions of ASU 2013-02 will not have a material effect on the Company's results of operation, financial position or cash flows.

**Note 3 — Fair Value Measurements**

We define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. We report assets and liabilities that are measured at fair value using a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy maximizes the use of observable inputs and minimizes the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities.
- Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.
- Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

**PHARMATHENE, INC.**

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**Note 3 — Fair Value Measurements – (continued)**

An asset's or liability's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. At each reporting period, we perform a detailed analysis of our assets and liabilities that are measured at fair value. All assets and liabilities for which the fair value measurement is based on significant unobservable inputs or instruments which trade infrequently and therefore have little or no price transparency are classified as Level 3.

We have segregated our financial assets and liabilities that are measured at fair value into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date in the table below. We have no non-financial assets and liabilities that are measured at fair value at December 31, 2012 and 2011.

| | As of December 31, 2012 | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Balance |
| Liabilities | | | | |
| Derivatives instruments | $ — | $ — | $1,295,613 | $ 1,295,613 |

| | As of December 31, 2011 | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Balance |
| Liabilities | | | | |
| Derivatives instruments | $ — | $ — | $1,886,652 | $ 1,886,652 |

The following table sets forth a summary of changes in the fair value of our Level 3 liabilities for the years ended December 31, 2012, 2011 and 2010:

| Description | Balance as of December 31, 2011 | New Liabilities | Unrealized (Gains) | Balance as of December 31, 2012 |
|---|---|---|---|---|
| Stock purchase warrants | $ 1,886,652 | — | $(591,039) | $ 1,295,613 |

| Description | Balance as of December 31, 2010 | New Liabilities 2011 | Unrealized (Gains) | Balance as of December 31, 2011 |
|---|---|---|---|---|
| Stock purchase warrants | $ 8,362,995 | $ 668,640 | $(7,144,983) | $ 1,886,652 |

| Description | Balance as of December 31, 2009 | New Liabilities 2010 | Unrealized Losses | Balance as of December 31, 2010 |
|---|---|---|---|---|
| Stock purchase warrants | $ 835,299 | $2,070,146 | $5,457,550 | $ 8,362,995 |

At December 31, 2012 and 2011 derivative liabilities are comprised of 2,899,991 warrants to purchase common stock. The warrants are considered to be derivative liabilities due to the presence of net settlement features and, as a result, are recorded at fair value at each balance sheet date. The fair value of our warrants is determined based on the Black-Scholes option pricing model. Use of the Black-Scholes option-pricing model requires the use of unobservable inputs such as the expected term, anticipated volatility and expected dividends. Changes in any of the assumptions related to the unobservable inputs identified above may change the stock purchase warrants' fair value; increases in expected term, anticipated volatility and expected dividends generally result in increases in fair value, while decreases in the unobservable inputs generally result in decreases in fair value. Gains and losses on the fair value adjustments for these derivative instruments are classified in other income (expense) as the change in fair value of derivative instruments in our consolidated statements of operations. The $0.6 million unrealized gains on the change in the market value of derivative instruments during the year ended December 31, 2012 is due primarily to the change in the closing price of our stock, which was $1.27 per share as of December 30, 2011 and $1.12 per share as of December 31, 2012. The $7.1 million unrealized gains on the change in the market value of derivative

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
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**Note 3 — Fair Value Measurements – (continued)**

instruments during the year ended December 31, 2011 is due primarily to the change in the closing price of our stock, which was $4.23 per share as of December 31, 2010 and $1.27 per share as of December 31, 2011. The $5.5 million unrealized loss on the change in the market value of derivative instruments during the year ended December 31, 2010 is due primarily to the unrecognized losses on the new derivative liabilities issued during 2010 and the change in the closing price of our stock from their date of issuance to $4.23 per share as of December 31, 2010.

**Quantitative Information about Level 3 Fair Value Measurements**

| Fair Value at 12/31/2012 | Valuation Technique | Unobservable Inputs |
|---|---|---|
| $1,295,613 | Black-Scholes option pricing model | Expected term |
| | | Expected dividends |
| | | Anticipated volatility |

As of December 31, 2012 and 2011 the Company had no assets or liabilities that were measured at fair value on a non-recurring basis.

The fair value of long-term debt approximates its face value at December 31, 2012, which was $2.5 million.

**Note 4 — Property and Equipment**

Property and equipment consisted of the following:

| | December 31, | |
|---|---|---|
| | 2012 | 2011 |
| Leasehold improvements | $ 758,126 | $ 758,126 |
| Furniture and office equipment | 234,018 | 234,018 |
| Computer and other equipment | 1,397,012 | 1,409,580 |
| | 2,389,156 | 2,401,724 |
| Less accumulated depreciation | (1,905,180) | (1,613,058) |
| Property and equipment, net | $ 483,976 | $ 788,666 |

Depreciation expense for the years ended December 31, 2012 and 2011 was $0.3 million, $0.5 million, respectively. Depreciation and amortization expense for the year ended December 31, 2010 was $5.7 million. The Company recorded an impairment charge in 2010 of approximately $3.8 million associated with the closing of the Canadian operation upon the expiration of the Protexia® contract and of certain patents of approximately $0.8 million. These charges are included in depreciation and amortization in the accompanying 2010 consolidated statement of operations.

**Note 5 — Accrued Expenses and Other Liabilities**

Accrued expenses and other liabilities consisted of the following:

| | December 31, | |
|---|---|---|
| | 2012 | 2011 |
| Accrued development expenses | $ 1,716,557 | $ 1,479,105 |
| Accrued professional services | 365,680 | 423,756 |
| Accrued employee payroll and related expenses | 189,746 | 752,469 |
| Other | 56,894 | — |
| Accrued expenses and other liabilities | $ 2,328,877 | $ 2,655,330 |

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
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**Note 6 — Debt**

***Term Loan and Revolving Line of Credit***

On March 30, 2012, we entered into a Loan Agreement with GE Capital. The Loan Agreement provides for a senior secured debt facility including a $2.5 million term loan and a revolving line of credit of up to $5 million based on our outstanding qualified accounts receivable. On March 30, 2012, the term loan was funded for an aggregate amount of $2.5 million.

Under the terms of the revolving line of credit, the Company may draw down from the revolving line of credit up to 85% of qualified billed accounts receivable and 80% of qualified unbilled accounts receivable. As of December 31, 2012, the total amount available to draw was approximately $2.9 million, of which $1.3 million was drawn and outstanding.

The fixed interest rate on the term loan is 10.14% per annum. The revolving line of credit has an adjustable interest rate based upon the 3-month London Interbank Offered Rate (LIBOR), with a floor of 1.5%, plus 5%. As of December 31, 2012, the interest rate was 6.5%. Both the term loan and the revolving line of credit mature in September 2015. Payments on the term loan were originally interest-only for the first 10 months, which has since been extended to 12 months pursuant to terms of the agreement. Subsequently, the term loan will fully amortize over its remaining term as of December 31, 2012. Principal payments on the term loan are scheduled as follows:

| Year | Principal Payments |
|---|---|
| 2013 | $ 749,997 |
| 2014 | 999,996 |
| 2015 | 750,007 |
| | $ 2,500,000 |

The term loan is recorded on the 2012 consolidated balance sheet, net of debt discount, as follows:

| | |
|---|---|
| Current portion of long-term debt | $ 749,997 |
| Long-term debt, less current portion | $ 1,704,108 |

If we prepay the term loan and terminate the revolving line of credit prior to the scheduled maturity date, we are obligated to pay a prepayment premium equal to 3% of the then outstanding principal amount of the term loan if prepaid during the first two years of the loan and 2% if prepaid during the third year or thereafter. In addition, we are obligated to pay a final payment fee of 3% of the term loan balance. The final payment fee is being accrued and expensed over the term of the agreement, using the effective interest method and is included in other long-term liabilities on the consolidated balance sheet.

Our obligations under the Loan Agreement are collateralized by a security interest in substantially all of our assets. While the security interest does not, except in limited circumstances, cover our intellectual property, it does cover any proceeds received by us from the use or sale of our intellectual property.

The Loan Agreement contains customary representations, warranties and covenants, including limitations on acquisitions, dispositions, incurrence of indebtedness and the granting of security interests. The representations, warranties and covenants contained in the Loan Agreement were made only for purposes of such agreement and as of a specific date or specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by the contracting parties, including being qualified by confidential disclosures exchanged between the parties in connection with the execution of the Loan Agreement.

The Loan Agreement contains certain financial and non-financial covenants. Upon the occurrence and during the continuance of any event of default, GE Capital may, and at the written request of the requisite

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
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**Note 6 — Debt – (continued)**

lenders shall, terminate the commitments under the facilities and declare any or all of the obligations to be immediately due and payable, without demand or notice to us; however, any event of default relating to timely payment of debts, insolvency, liquidation, bankruptcy or similar events will result in automatic acceleration. Among the remedies available to GE Capital in case of an event of default are the taking possession and disposition of any collateral under the Loan Agreement.

In connection with the Loan Agreement, we issued GE Capital warrants to purchase 46,584 shares of the Company's common stock at an exercise price of $1.61 per share, The warrants are exercisable immediately and subject to customary and standard anti-dilution adjustments. The warrants are classified in equity and, as a result, the fair value of the warrants was charged to additional paid-in capital resulting in a debt discount at the date of issuance. The debt discount is being amortized over the term of the loan agreement using the effective interest method. Financing costs incurred in connection with this agreement are also being amortized over the term of the agreement using the effective interest method.

The fair value of the long-term term loan approximates its face value at December 31, 2012, which was approximately $2.5 million.

***Convertible Notes***

In July 2009, we issued approximately $19.3 million of convertible notes ("Convertible Notes") and stock purchase warrants to investors in a private placement.

In November 2010, holders of Convertible Notes in the aggregate principal amount (plus accrued interest) of approximately $17.0 million converted their notes into approximately 6.7 million shares of common stock (at the stated conversion price of $2.54 per share) pursuant to an early conversion offer we made to all holders. During the fourth quarter of 2010, we expensed approximately $1.1 million related to the early conversion offer. After we issued a redemption (call) notice in November 2010, holders of additional Convertible Notes in the aggregate principal amount (plus accrued interest) of approximately $4.8 million converted their notes into approximately 1.9 million shares. Convertible Notes with principal plus accrued interest of approximately $11,000 were not converted, and as a result of the redemption notice, we paid the holder in cash to satisfy our obligations under such note on the redemption date.

We incurred approximately $5.8 million of interest expense related to the Convertible Notes in 2010.

**Note 7 — Commitments and Contingencies**

***Leases***

We lease our offices in Maryland under a 10 year operating lease, which commenced on May 1, 2007. We also lease offices in North Carolina with the lease term expiring in September 2013. Remaining annual minimum payments for these two leases are as follows:

| Year | Lease Payments |
|---|---|
| 2013 | $ 809,400 |
| 2014 | $ 797,700 |
| 2015 | $ 821,600 |
| 2016 | $ 846,200 |
| 2017 | $ 356,900 |

For each of the years ended December 31, 2012, 2011 and 2010 total rent expense under operating lease agreements approximated $0.8 million, $0.8 million and $1.0 million, respectively.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 7 — Commitments and Contingencies – (continued)**

***License Agreements***

In connection with an acquisition in 2008, we acquired license agreements with The Defence Science and Technology Laboratory of the United Kingdom Ministry of Defence ("DSTL") for the rights to certain technologies. These agreements allow for the licensing of certain patents and technology necessary to perform development of the rPA vaccine program as required under the Company's government contracts. Upon commercialization, the license agreements require that PharmAthene make royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial markets. No royalty payments on these licenses have been incurred.

In 2012 we entered into a commercial licensing agreement allowing for the licensing of certain patent and other intellectual property rights from a research company related to BChE. The agreement includes certain annual maintenance and other development milestone payments. Upon commercialization, the license agreement requires royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial market sales subject to the license through the expiration of the licensed patents. No maintenance or milestone payments were incurred in 2012.

***SIGA Litigation***

In December 2006, we filed a complaint against SIGA Technologies, Inc. ("SIGA") in the Delaware Court of Chancery. The complaint alleged, among other things, that we have the right to license exclusively development and marketing rights for SIGA's drug candidate, Arestvyr™ (Tecovirimat), pursuant to a Merger Agreement between the parties that was terminated in 2006. The complaint also alleged that SIGA failed to negotiate in good faith the terms of such a license pursuant to the terminated Merger Agreement.

In September 2011, the Court issued an opinion in the case finding that SIGA had breached certain contractual obligations to us and upholding our claims of promissory estoppel. The Court awarded us the right to receive 50% of all net profits (as defined in the court's final judgment) related to the sale of Arestvyr™ and related products for 10 years following initial commercial sale of the drug once SIGA earns $40 million in net profits from the sale of Arestvyr™ and related products. The Court also awarded us one-third of our reasonable attorney's fees and expert witness fees, which amounts to approximately $2.4 million plus interest. In May 2012, the Court issued its final judgment. SIGA has appealed aspects of the decision to the Delaware Supreme Court. In response, we cross-appealed other aspects of the decision. In January 2013, the Delaware Supreme Court heard oral argument in the case.

We can provide no assurances that SIGA will not prevail on its appeal, that we will be successful in our appeal, and that the Delaware Supreme Court will not overturn the trial court's decision awarding us a 10 year 50% net profit of the sales of Arestvyr™ and related products (once SIGA retains the first $40 million in net profit). We have not yet recorded any amount due from SIGA in relation to this case.

***Vendor litigation***

One of our vendors mishandled the storage of certain biological materials. While we have recently been engaged in discussions with the vendor to address our concerns, so far we have not come to agreement. The vendor recently filed suit against us in Delaware state court seeking a declaration that they are not liable for damages and seeking damages from us for allegedly not maintaining the required amount and type of insurance. We filed suit against the vendor in Maryland state court seeking damages related to the loss of the property. We believe we did maintain the appropriate amount and type of insurance, that in no event did we harm the vendor, and thus their damages claim is without merit. We plan to vigorously defend against their claims while pursuing our own.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 7 — Commitments and Contingencies – (continued)**

***Government Contracting***

Payments to the Company on cost-plus-fee contracts are provisional and are subject to adjustment upon audit by the Defense Contract Audit Agency and BARDA. In our opinion, adjustments that may result from audits are not expected to have a material effect on our financial position, results of operations, or cash flows.

***Registration Rights Agreements***

We entered into a Registration Rights Agreement with the investors who participated in the July 2009 private placement of convertible notes and related warrants. We subsequently filed two registration statements on Form S-3 with the Securities and Exchange Commission to register the shares underlying the convertible notes and related warrants, which registration statements have been declared effective. We are obligated to maintain the registration statements effective until the date when all shares underlying the convertible notes and related warrants (and any other securities issued or issuable with respect to in exchange for such shares) have been sold. The convertible notes were converted or extinguished in 2010, although the related warrants remain outstanding. The warrants will expire on January 28, 2015.

We have separate registration rights agreements with investors, under which we have obligations to keep the corresponding registration statements effective until the registrable securities (as defined in each agreement) have been sold, and under which we may have separate obligations to file registration statements in the future on either a demand or “piggy-back” basis or both.

Under the terms of the convertible notes, which were converted or extinguished in 2010, if after the 2$^{nd}$ consecutive business day (other than during an allowable blackout period) on which sales of all of the securities required to be included on the registration statement cannot be made pursuant to the registration statement (a “Maintenance Failure”), we will be required to pay to each selling stockholder a one-time payment of 1.0% of the aggregate principal amount of the convertible notes relating to the affected shares on the initial day of a Maintenance Failure. Our total maximum obligation under this provision at December 31, 2012, would be approximately $0.2 million.

Following a Maintenance Failure, we will also be required to make to each selling stockholder monthly payments of 1.0% of the aggregate principal amount of the convertible notes relating to the affected shares on every 30$^{th}$ day after the initial day of a Maintenance Failure, in each case prorated for shorter periods and until the failure is cured. Our total maximum obligation under this provision would be approximate $0.2 million for each month until the failure, if it occurs, is cured.

**Note 8 — Stockholders’ Equity**

***Common Stock***

In April 2010, we completed a public offering of 1,666,668 shares of our common stock at $1.50 per share and warrants to purchase an aggregate of 500,000 shares of our common stock at an exercise price of $1.89 per share, generating gross proceeds of approximately $2.5 million. The warrants became exercisable on October 13, 2010 and expire on October 13, 2015 and are classified as derivative instruments. Placement fees of approximately $175,000 and legal and other fees of approximately $140,000 were incurred in connection with this transaction.

In July 2010, we completed a public offering of 2,785,714 shares of our common stock at $1.40 per share and warrants to purchase an aggregate of 1,323,214 shares of our common stock at an exercise price of $1.63 per share, generating gross proceeds of approximately $3.9 million. The warrants became exercisable on January 23, 2011 and expire on January 23, 2017 and are classified as derivative instruments. Placement fees of approximately $260,000 and legal and other fees of approximately $145,000 were incurred in connection with this transaction.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 8 — Stockholders' Equity – (continued)**

In November 2010, we completed an underwritten public offering of 4,945,000 shares of our common stock at a price to the public of $3.50 per share, generating gross proceeds of approximately $17.3 million. We incurred offering expenses of approximately $1.0 million and legal and other fees of approximately $0.4 million in connection with this transaction.

In June 2011, we completed a public offering of 1,857,143 shares of common stock at $3.50 per share inclusive of warrants to purchase up to an additional 371,423 shares of common stock. The warrants are exercisable immediately at an exercise price of $3.50 per share until the fifth anniversary of the date of issuance which is June 15, 2016. The warrants are classified as derivative instruments because they include net settlement provisions. We received gross proceeds of approximately $6.5 million and net proceeds of approximately $5.1 million for stock and $0.7 million for derivative instruments.

***Long-Term Incentive Compensation Plan***

In 2007, the Company's stockholders approved the 2007 Long-Term Incentive Compensation Plan (the "2007 Plan") which provides for the granting of incentive and non-qualified stock options, stock appreciation rights, performance units, restricted common awards and performance bonuses (collectively "awards") to Company officers and employees. Additionally, the 2007 Plan authorizes the granting of non-qualified stock options and restricted stock awards to Company directors and to independent consultants.

In 2008, the Company's shareholders approved amendments to the 2007 Plan, increasing from 3.5 million shares to 4.6 million shares the maximum number of shares authorized for issuance under the plan and adding an evergreen provision pursuant to which the number of shares authorized for issuance under the plan will increase automatically in each year, beginning in 2009 and continuing through 2015, according to certain limits set forth in the 2007 Plan. At December 31, 2012, there are approximately 8.2 million shares approved for issuance under the 2007 plan, of which approximately 1.3 million shares are available to be issued. The Board of Directors in conjunction with management determines who receives awards, the vesting conditions and the exercise price. Options may have a maximum term of ten years.

The following tables summarize the activity of the 2007 Plan for options:

| | Shares | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term |
|---|---|---|---|
| **Options** | | | |
| Outstanding January 1, 2010 | 4,913,366 | $ 3.88 | 8.1 |
| Granted | 2,722,131 | 2.50 | |
| Exercised | (22,316) | 2.56 | |
| Forfeited | (2,273,768) | 3.89 | |
| Outstanding, December 31, 2010 | 5,339,413 | $ 3.18 | 8.3 |
| Granted | 1,934,566 | 1.71 | |
| Exercised | (44,464) | 2.66 | |
| Forfeited | (936,533) | 3.07 | |
| Outstanding, December 31, 2011 | 6,292,982 | $ 2.74 | 8.0 |
| Granted | 852,139 | 1.22 | |
| Exercised | (31,474) | 1.24 | |
| Forfeited | (888,035) | 2.91 | |
| Outstanding, December 31, 2012 | 6,225,612 | $ 2.52 | 7.4 |

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 8 — Stockholders' Equity – (continued)**

| | Shares | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term |
|---|---|---|---|
| Exercisable, December 31, 2012 | 4,044,636 | $ 2.86 | 6.6 |
| Vested and expected to vest, December 31, 2012 | 5,963,894 | $ 2.55 | 7.3 |

The aggregate intrinsic value is calculated as the difference between (i) the closing price of the common stock at December 31, 2012 and (ii) the exercise price of the underlying awards, multiplied by the number of options that had an exercise price less than the closing price on the last trading day. Our outstanding and exercisable options had no aggregate intrinsic value as of December 31, 2012, as the exercise price of all outstanding and exercisable options was below the closing price of the common stock at December 31, 2012.

At December 31, 2012, total compensation costs for unvested stock option awards outstanding approximated $2.2 million, net of estimated forfeitures, which we expect to recognize as stock compensation expense over a weighted average period of 2.37 years.

***Valuation assumptions used to determine fair value of share-based compensation***

The weighted-average grant date fair value for options granted in 2012, 2011 and 2010 approximated $0.86, $1.17 and $1.88, respectively. The aggregate intrinsic value of options exercised during the years ended December 31, 2012, 2011 and 2010 was $9,067, $34,935 and $29,319, respectively. The total fair value of awards vested during 2012, 2011 and 2010 was $2,071,649, $2,259,625 and $2,300,053, respectively. The fair value for the 2012, 2011 and 2010 awards were estimated at the date of grant using the Black-Scholes option-pricing model using the following assumptions:

| | December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| Weighted-average volatility | 86% | 83% | 87% |
| Risk-free rate | 0.79% – 1.18% | 0.79% – 2.79% | 0.28% – 3.2% |
| Expected annual dividend yield | — | — | — |
| Expected weighted-average life, in years | 5.9 | 5.9 | 6.0 |

The valuation assumptions were determined as follows:

- Weighted average volatility: We determine expected volatility by using our historical volatility weighted 50% and the average historical volatility from comparable public companies with an expected term consistent with the expected term of our options weighted 50%.
- Risk-free interest rate: The yield on zero-coupon U.S. Treasury securities for a period that is commensurate with the expected term of the award.
- Expected annual dividend yield: The estimate for annual dividends is zero because we have not historically paid a dividend and do not intend to do so in the foreseeable future.
- Expected life: The expected term of the awards represents the period of time that the awards are expected to be outstanding. The Company estimated the expected term using the "simplified-method" as it does not have sufficient historical exercise data to provide a reasonable estimate.

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 8 — Stockholders' Equity – (continued)**

The following table summarizes the activity of the 2007 plan for restricted shares:

| | Shares | Weighted-Average Grant Date Fair Value | Aggregate Intrinsic Value |
|---|---|---|---|
| **Restricted Shares** | | | |
| Outstanding January 1, 2010 | 305,316 | $ 3.36 | $ 598,419 |
| Granted | 35,000 | 2.67 | |
| Vested | (101,899) | 3.29 | |
| Forfeited | (127,286) | 3.95 | |
| Outstanding, December 31, 2010 | 111,131 | $ 2.92 | $ 470,084 |
| Granted | 145,000 | 1.43 | |
| Vested | (123,066) | 2.59 | |
| Forfeited | (9,168) | 2.46 | |
| Outstanding, December 31, 2011 | 123,897 | $ 1.53 | $ 157,349 |
| Granted | — | — | |
| Vested | (110,564) | 1.53 | |
| Forfeited | — | — | |
| Outstanding, December 31, 2012 | 13,333 | $ 1.59 | $ 14,933 |

***Warrants***

At December 31, 2012 and 2011 there were warrants outstanding to purchase 5,620,128 and 5,573,544 shares of our common stock, respectively. At December 31, 2010, there were warrants outstanding to purchase 5,202,121 shares of our common stock (of which 1,323,214 were not exercisable until January 2011). The warrants outstanding as of December 31, 2012 were as follows:

| Number of Common Shares Underlying Warrants | Issue Date/Exercisable Date | Exercise Price | Expiration Date |
|---|---|---|---|
| 100,778(1) | Mar-07/Mar-07 | $3.97 | Mar-17 |
| 705,354(2) | Mar-09/Sep-09 | $3.00 | Sep-14 |
| 2,572,775(1) | Jul-09/Jan-10 | $2.50 | Jan-15 |
| 500,000(2) | Apr-10/Oct-10 | $1.89 | Oct-15 |
| 1,323,214(2) | Jul-10/Jan-11 | $1.63 | Jan-17 |
| 371,423(2) | Jun-11/Jun-11 | $3.50 | Jun-16 |
| 46,584(1) | Mar-12/Mar-12 | $1.61 | Mar-22 |
| 5,620,128 | | | |

(1) These warrants to purchase common stock are classified as equity.

(2) These warrants to purchase common stock are classified as derivative liabilities. The fair value of these liabilities (see note 4) is remeasured at the end of every reporting period and the change in fair value is reported in the consolidated statements of operations as other income (expense).

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 9 — Income Taxes**

The actual income tax provision differs from the expected income tax provision computed at the federal statutory rate as follows:

| | December 31, | | |
|---|---|---|---|
| | 2012 | 2011 | 2010 |
| Statutory federal tax benefit | $ (1,604,648) | $ (1,291,175) | $ (11,848,754) |
| State income tax, net of federal benefit | (19,918) | (232,489) | (1,284,265) |
| Other permanent differences | 4,975 | 22,101 | 607,981 |
| Foreign rate differential | (80,292) | (50,173) | 2,492,478 |
| Rate change | 388,656 | — | — |
| Lobbying costs | 122,204 | — | — |
| Write-off of expired/forfeited options and conversion of notes | 193,605 | 391,826 | 3,071,189 |
| Canada transfer pricing and expiring attributes | — | (8,965,832) | — |
| Expiration (reversal of expiration) of net operating losses | — | (4,745,271) | 5,053,927 |
| Other | 1,393,366 | 732,322 | 309,840 |
| Subtotal | 397,948 | (14,138,691) | (1,597,604) |
| Decrease (increase) in valuation allowance | (202,451) | 14,138,691 | 1,597,604 |
| Income tax expense | $ 195,497 | $ — | $ — |

Our net deferred tax assets consisted of the following:

| | December 31, | |
|---|---|---|
| | 2012 | 2011 |
| Net operating loss carry forwards | $ 58,334,073 | $ 62,873,360 |
| Fixed assets/intangibles | 114,826 | 49,389 |
| Research and development credits/loss carry forwards | 3,278,995 | 3,291,651 |
| Stock based compensation | 3,047,573 | 2,611,770 |
| Accrued expenses and other | 2,789,776 | 1,368,036 |
| Total deferred tax assets | 67,565,243 | 70,194,206 |
| Deferred tax liabilities: | | |
| Intercompany bad debt | (3,978,944) | (6,209,959) |
| Total deferred tax liabilities | (3,978,944) | (6,209,959) |
| Net deferred tax assets | 63,586,299 | 63,984,247 |
| Less: valuation allowance | (63,781,796) | (63,984,247) |
| Net deferred tax assets | $ (195,497) | $ — |

For the years ended December 31, 2012 and 2011, we increased the valuation allowance to fully reserve for the value of deferred tax assets. Due to continued operating losses, there is no indication that it is more likely than not that we will be able to utilize our deferred tax assets. As such, there have been no recoveries of previously recorded valuation allowances in 2012 or 2011.

The U.S. federal net operating loss carry forwards of approximately $134.3 million will begin to expire in various years beginning in 2021. Under Section 382 of the U.S. Internal Revenue Code, the Company’s net operating loss carry forwards may be limited due to underlying ownership of its common stock. The Canadian federal net operating loss carry forwards of approximately $3.6 million will begin to expire in 2030. The

**PHARMATHENE, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2012**

**Note 9 — Income Taxes – (continued)**

Quebec Provincial net operating loss carry forwards of approximately $3.6 million will begin to expire in 2030. The UK net operating loss carry forwards of approximately $19.6 million have an unlimited life.

In assessing the realizability of deferred tax assets, we consider whether it is more likely than not that some or all of the deferred tax asset will not be realized. The ultimate realization of the deferred tax asset is dependent upon the generation of future taxable income during the periods in which the net operating loss carry forwards are available. We consider projected future taxable income, the scheduled reversal of deferred tax liabilities and available tax planning strategies that can be implemented by us in making this assessment on a jurisdiction-by-jurisdiction basis. Based upon these factors, we have established a full valuation allowance against the net deferred tax asset in 2012, consistent with 2011. The Company has a deferred tax liability related to tax deductible goodwill. The scheduled reversal of this deferred tax liability is not determinable. As such, that deferred tax liability cannot be used as a source of future taxable income with which to realize the deferred tax assets. The cumulative amount of this deferred tax liability is $195,497.

We have analyzed tax positions in all jurisdictions where the Company is required to file an income tax return and have concluded that we do not have any material unrecognized tax benefits. As such, we believe that any of our uncertain tax positions would not result in adjustments to our effective income tax rate.

**Note 10 — Supplemental Financial Information (Unaudited)**

Quarterly financial information for the years ended December 31, 2012 and 2011 is presented in the following tables:

| | Three months ended | | | |
|---|---|---|---|---|
| | March 31, | June 30, | September 30, | December 31, |
| Fiscal year 2012 | | | | |
| Revenue | $ 6,149,052 | $ 6,316,998 | $ 6,696,126 | $ 6,013,711 |
| Loss from operations | (1,590,696) | (1,458,204) | (1,790,377) | (1,427,113) |
| Net loss | (2,679,888) | (756,543) | (213,936) | (1,269,748) |
| Net loss per share, basic | (0.06) | (0.02) | 0.00 | (0.03) |
| Net loss per share, diluted | (0.06) | (0.02) | 0.00 | (0.03) |
| Fiscal year 2011 | | | | |
| Revenue | $ 6,337,722 | $ 6,428,840 | $ 5,260,057 | $ 6,239,655 |
| Loss from operations | (4,539,935) | (3,081,320) | (3,021,914) | (1,082,562) |
| Net (loss) income | (2,075,657) | (2,437,613) | (33,496) | 749,193 |
| Net (loss) income per share, basic | (0.04) | (0.05) | 0.00 | 0.02 |
| Net (loss) income per share, diluted | (0.04) | (0.05) | 0.00 | 0.02 |

**PHARMATHENE, INC.**

**CONDENSED CONSOLIDATED BALANCE SHEETS**

| | June 30, 2013 (Unaudited) | December 31, 2012 |
|---|---|---|
| **ASSETS** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 15,789,909 | $ 12,701,517 |
| Billed accounts receivable | 1,540,060 | 2,432,641 |
| Unbilled accounts receivable | 3,694,631 | 4,114,442 |
| Prepaid expenses and other current assets | 667,850 | 547,245 |
| Total current assets | 21,692,450 | 19,795,845 |
| Property and equipment, net | 460,101 | 483,976 |
| Other long-term assets and deferred costs | 85,907 | 113,130 |
| Goodwill | 2,348,453 | 2,348,453 |
| Total assets | $ 24,586,911 | $ 22,741,404 |
| **LIABILITIES AND STOCKHOLDERS' EQUITY** | | |
| Current liabilities: | | |
| Accounts payable | $ 2,992,549 | $ 1,697,280 |
| Accrued expenses and other liabilities | 2,053,522 | 2,328,877 |
| Deferred revenue | 508,175 | 1,381,755 |
| Current portion of long-term debt | 999,996 | 749,997 |
| Short-term debt | 1,168,143 | 1,330,507 |
| Total current liabilities | 7,722,385 | 7,488,416 |
| Other long-term liabilities | 577,725 | 579,427 |
| Long-term debt, less current portion | 1,217,791 | 1,704,108 |
| Derivative instruments | 1,848,566 | 1,295,613 |
| Total liabilities | 11,366,467 | 11,067,564 |
| Stockholders' equity: | | |
| Common stock, $0.0001 par value; 100,000,000 shares authorized; 51,173,919 and 48,352,651 shares issued and outstanding at June 30, 2013 and December 31, 2012, respectively | 5,117 | 4,835 |
| Additional paid-in-capital | 215,392,930 | 210,495,905 |
| Accumulated other comprehensive loss | (220,274) | (217,328) |
| Accumulated deficit | (201,957,329) | (198,609,572) |
| Total stockholders' equity | 13,220,444 | 11,673,840 |
| Total liabilities and stockholders' equity | $ 24,586,911 | $ 22,741,404 |

The accompanying notes are an integral part of the unaudited condensed consolidated financial statements.

**PHARMATHENE, INC.**

**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**

| | Three months ended June 30, | | Six months ended June 30, | |
|---|---|---|---|---|
| | 2013 | 2012 | 2013 | 2012 |
| Revenue | $ 4,295,400 | $ 6,316,998 | $10,770,538 | $ 12,466,050 |
| Operating Expenses: | | | | |
| Research and development | 3,402,545 | 4,918,655 | 8,636,020 | 9,624,012 |
| General and administrative | 2,332,730 | 2,780,099 | 4,612,525 | 5,728,580 |
| Depreciation | 41,854 | 76,448 | 94,456 | 162,358 |
| Total operating expenses | 5,777,129 | 7,775,202 | 13,343,001 | 15,514,950 |
| Loss from operations | (1,481,729) | (1,458,204) | (2,572,463) | (3,048,900) |
| Other income (expense): | | | | |
| Interest income | 1,656 | 4,819 | 2,439 | 7,807 |
| Interest expense | (100,027) | (111,353) | (199,818) | (114,381) |
| Change in fair value of derivative instruments | 352,824 | 823,809 | (552,953) | (167,853) |
| Other income (expense) | 2,110 | 519 | (4,013) | 53,434 |
| Total other income (expense) | 256,563 | 717,794 | (754,345) | (220,993) |
| Net loss before provision for income taxes | (1,225,166) | (740,410) | (3,326,808) | (3,269,893) |
| Provision for income taxes | (11,206) | (16,133) | (20,949) | (166,538) |
| Net loss | $ (1,236,372) | $ (756,543) | $ (3,347,757) | $ (3,436,431) |
| Basic and diluted net loss per share | $ (0.02) | $ (0.02) | $ (0.07) | $ (0.07) |
| Weighted average shares used in calculation of basic and diluted net loss per share | 49,749,167 | 48,325,945 | 49,058,014 | 48,297,919 |

The accompanying notes are an integral part of the unaudited condensed consolidated financial statements.

**PHARMATHENE, INC.**

**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS**

| | Three months ended June 30, | | Six months ended June 30, | |
|---|---|---|---|---|
| | 2013 | 2012 | 2013 | 2012 |
| Net loss | $(1,236,372) | $(756,543) | $(3,347,757) | $(3,436,431) |
| Other comprehensive (loss) income: | | | | |
| Foreign currency translation adjustment | (1,262) | (19,902) | (2,946) | (6,533) |
| Comprehensive loss | $(1,237,634) | $(776,445) | $(3,350,703) | $(3,442,964) |

The accompanying notes are an integral part of the unaudited condensed consolidated financial statements.

**PHARMATHENE, INC.**

**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**

| | Six months ended June 30, | |
|---|---|---|
| | 2013 | 2012 |
| **Operating activities** | | |
| Net loss | $ (3,347,757) | $ (3,436,431) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Share-based compensation expense | 652,589 | 1,060,705 |
| Change in fair value of derivative instruments | 552,953 | 167,853 |
| Depreciation expense | 94,456 | 162,358 |
| Deferred provision for income taxes | 20,949 | 166,538 |
| Non-cash interest expense | 70,473 | 40,470 |
| Gain on the disposal of property and equipment | — | (66,626) |
| Changes in operating assets and liabilities: | | |
| Billed accounts receivable | 892,581 | 979,612 |
| Unbilled accounts receivable | 419,811 | (1,765,096) |
| Prepaid expenses and other current assets | 355,878 | 248,707 |
| Accounts payable | 1,292,796 | 617,014 |
| Accrued expenses and other liabilities | (366,136) | 408,088 |
| Deferred revenue | (873,580) | (495,571) |
| Net cash used by operating activities | (234,987) | (1,912,379) |
| **Investing activities** | | |
| Purchase of property and equipment | (70,581) | — |
| Proceeds from the sale of property and equipment | — | 67,400 |
| Net cash provided (used) by investing activities | (70,581) | 67,400 |
| **Financing activities** | | |
| Proceeds from issuance (repayment) of long-term debt | (249,999) | 2,500,000 |
| Net repayment of revolving credit agreement | (162,364) | — |
| Deferred financing costs | — | (216,460) |
| Change in restricted cash requirements | — | 100,000 |
| Proceeds from issuance of common stock, net of issuance costs | 3,810,403 | 38,983 |
| Other | — | (32,960) |
| Net cash provided by financing activities | 3,398,040 | 2,389,563 |
| Effects of exchange rates on cash | (4,080) | (4,434) |
| Increases in cash and cash equivalents | 3,088,392 | 540,150 |
| Cash and cash equivalents, at beginning of period | 12,701,517 | 11,236,771 |
| Cash and cash equivalents, at end of period | $ 15,789,909 | $ 11,776,921 |
| **Supplemental disclosure of cash flow information** | | |
| Cash paid for interest | $ 129,345 | $ 73,911 |
| **Noncash financing activities** | | |
| Value of warrants issued to lender in connection with loan | $ — | $ 69,876 |

The accompanying notes are an integral part of the unaudited condensed consolidated financial statements.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 1 — Organization and Business**

We are a biopharmaceutical company focused on developing biodefense countermeasure applications. We are subject to those risks associated with any biopharmaceutical company that has substantial expenditures for research and development. There can be no assurance that our research and development projects will be successful, that the products we may develop will obtain necessary regulatory approval, or that any approved product will be commercially viable. In addition, we operate in an environment of rapid technological change and are largely dependent on the services and expertise of our employees, consultants and other third parties.

Historically, we have performed under government contracts and grants and raised funds from investors to sustain our operations.

**Note 2 — Summary of Significant Accounting Policies**

*Basis of Presentation*

Our unaudited condensed consolidated financial statements include the accounts of PharmAthene, Inc. and its wholly owned subsidiaries. All significant intercompany transactions and balances have been eliminated in consolidation. Our unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"). In the opinion of management, the accompanying unaudited condensed consolidated financial statements include all adjustments, consisting of normal recurring adjustments, which are necessary to present fairly our financial position, results of operations and cash flows. The unaudited condensed consolidated balance sheet at December 31, 2012 has been derived from audited consolidated financial statements at that date. The interim results of operations are not necessarily indicative of the results that may occur for the full fiscal year. Certain information and footnote disclosure normally included in the financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to instructions, rules and regulations prescribed by the U.S. Securities and Exchange Commission. We believe that the disclosures provided herein are adequate to make the information presented not misleading when these unaudited condensed consolidated financial statements are read in conjunction with the Consolidated Financial Statements and Notes included in our Annual Report on Form 10-K for the year ended December 31, 2012, filed with the Securities and Exchange Commission. We currently operate in one business segment.

*Use of Estimates*

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Our unaudited condensed consolidated financial statements include significant estimates for the value and the expected economic life of our intangible assets, the amount of our net operating losses available for income tax purposes, our share-based compensation, the value of our derivative financial instruments, among other things. Because of the use of estimates inherent in the financial reporting process, actual results could differ significantly from those estimates.

*Foreign Currency Translation*

The functional currency of our wholly owned foreign subsidiaries is their local currency. Assets and liabilities of our foreign subsidiaries are translated into United States dollars based on exchange rates at the end of the reporting period; income and expense items are translated at the weighted average exchange rates prevailing during the reporting period. Translation adjustments for subsidiaries that have not been sold, substantially liquidated or otherwise disposed of are accumulated in other comprehensive income (loss), a component of stockholders' equity. Transaction gains or losses are included in the determination of net loss.

*Comprehensive Loss and Accumulated Other Comprehensive Income*

Comprehensive loss includes the total of our net loss and all other changes in equity other than transactions with owners, which currently only includes changes in equity for cumulative translation

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

adjustments resulting from the consolidation of foreign subsidiaries as the financial statements of the subsidiaries located outside of the United States are accounted for using the local currency as the functional currency.

*Cash and Cash Equivalents*

Cash and cash equivalents are stated at market value. We consider all highly liquid investments with original maturities of three months or less to be cash equivalents.

*Revolving Line of Credit and Term Loan*

As discussed further in Note 6, we entered into a loan agreement with General Electric Capital Corporation ("GE Capital") in March 2012. As part of that agreement, we issued stock purchase warrants to GE Capital that expire in March 2022 (see Note 5). The fair value of the warrants was charged to additional paid-in-capital, resulting in a debt discount to the term loan at the date of issuance. The debt discount and the financing costs incurred in connection with the agreement are being amortized over the term of the loan using the effective interest method. The amortization of both the debt discount and deferred financing costs are included in interest expense in the unaudited condensed consolidated statements of operations.

*Significant Customers and Accounts Receivable*

Our primary customers are the U.S. Department of Defense (the "DoD") — Chemical Biological Medical Systems ("CBMS"), and the Biomedical Advanced Research and Development Authority ("BARDA"). As of June 30, 2013 and December 31 2012, the Company's billed and unbilled receivable balances were comprised solely of receivables from CBMS and BARDA.

*Goodwill*

Goodwill represents the excess of purchase price over the fair value of net identifiable assets associated with acquisitions. We review the recoverability of goodwill annually as of December 31 by comparing our market value (as measured by our stock price multiplied by the number of outstanding shares as of the end of the year) to the net book value of our equity. If our market value exceeds our net book value, no further analysis is required. Changes in our business strategy or adverse changes in market conditions could impact the impairment analyses and require the recognition of an impairment charge equal to the excess of the carrying value over its estimated fair value. We completed our last annual impairment assessment of goodwill as of December 31, 2012 and determined that there was no impairment as of that date.

*Revenue Recognition*

We generate our revenue from different types of contractual arrangements: cost-plus-fee contracts, cost reimbursable grants and fixed price contracts.

Revenues on cost-plus-fee contracts are recognized in an amount equal to the costs incurred during the period plus an estimate of the applicable fee earned. The estimate of the applicable fee earned is determined by reference to the contract: if the contract defines the fee in terms of risk-based milestones and specifies the fees to be earned upon the completion of each milestone, then the fee is recognized when the related milestones are earned, as further described below; otherwise, we estimate the fee earned in a given period by using a proportional performance method based on costs incurred during the period as compared to total estimated project costs and application of the resulting fraction to the total project fee specified in the contract.

Under the milestone method of revenue recognition, substantive milestone payments (including milestone payments for fees) contained in research and development arrangements are recognized as revenue when: (i) the milestones are achieved; (ii) no further performance obligations with respect to the milestone exist; (iii) collection is reasonably assured; and (iv) substantive effort was necessary to achieve the milestone.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

Milestones are considered substantive if all of the following conditions are met:

- it is commensurate with either our performance to meet the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from our performance to achieve the milestone,
- it relates solely to past performance,
- the value of the milestone is reasonable relative to all the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

If a milestone is deemed not to be substantive, the Company recognizes the portion of the milestone payment as revenue that correlates to work already performed; the remaining portion of the milestone payment is deferred and recognized as revenue as the Company completes its performance obligations.

Revenue on fixed price contracts (without substantive milestones as described above) is recognized on the percentage-of-completion method. The percentage-of-completion method recognizes income as the contract progresses (generally related to the costs incurred in providing the services required under the contract). The use of the percentage-of-completion method depends on the ability to make reasonable dependable estimates and the fact that circumstances may necessitate frequent revision of estimates does not indicate that the estimates are unreliable for the purpose for which they are used.

As a result of our revenue recognition policies and the billing provisions contained in our contracts, the timing of customer billings may differ from the timing of recognizing revenue. Amounts invoiced to customers in excess of revenue recognized are reflected on the balance sheet as deferred revenue. Amounts recognized as revenue in excess of amounts billed to customers are reflected on the balance sheet as unbilled accounts receivable.

We analyze each cost reimbursable grant to determine whether we should report such reimbursements as revenue or as an offset to our expenses incurred. For the three months ended June 30, 2012, we recorded approximately $0.4 million of costs reimbursed by the government as an offset to research and development expenses (no such reimbursements were recorded for the three months ended June 30, 2013). For the six months ended June 30, 2013 and 2012, we recorded approximately $0.02 million and $1.0 million, respectively, of costs reimbursed by the government as an offset to research and development expenses.

*Share-Based Compensation*

We expense the estimated fair value of share-based awards granted to employees under our stock compensation plans. The fair value of stock options is determined at the grant date using an option pricing model. We have estimated the fair value of each stock option award using the Black-Scholes option pricing model. The Black-Scholes model considers, among other factors, the expected life of the award and the expected volatility of our stock price. The value of the award that is ultimately expected to vest is recognized as expense on a straight line basis over the employee's requisite service period.

The fair value of restricted stock grants is determined based on the closing price of our common stock on the award date and is recognized as expense ratably over the requisite service period.

Employee share-based compensation expense recognized in the three months and six months ended June 30, 2013 and 2012 was calculated based on awards ultimately expected to vest and has been reduced for estimated forfeitures at a rate of approximately 12%, based on historical forfeitures.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

Share-based compensation expense for the three months ended June 30, 2013 and 2012 was:

| | Three months ended June 30, | |
|---|---|---|
| | 2013 | 2012 |
| Research and development | $ 73,859 | $ 127,076 |
| General and administrative | 250,149 | 384,965 |
| Total share-based compensation expense | $ 324,008 | $ 512,041 |

During the three months ended June 30, 2013, we granted 145,000 options to employees and nonemployee directors and made no restricted stock grants. During the three months ended June 30, 2012, we granted 185,000 options to employees and nonemployee directors and made no restricted stock grants.

Share-based compensation expense for the six months ended June 30, 2013 and 2012 was:

| | Six months ended June 30, | |
|---|---|---|
| | 2013 | 2012 |
| Research and development | $ 162,493 | $ 244,143 |
| General and administrative | 490,096 | 816,562 |
| Total share-based compensation expense | $ 652,589 | $ 1,060,705 |

During the six months ended June 30, 2013, we granted 205,000 options to employees, nonemployee directors and consultants and made no restricted stock grants. During the six months ended June 30, 2012, we granted 200,948 options to employees and nonemployee directors and made no restricted stock grants.

At June 30, 2013, we had total unrecognized share-based compensation expense related to unvested awards of approximately $1.8 million, net of estimated forfeitures, which we expect to recognize as expense over a weighted-average period of 2.13 years.

*Income Taxes*

We account for income taxes using the asset and liability approach, which requires the recognition of future tax benefits or liabilities on the temporary differences between the financial reporting and tax bases of our assets and liabilities. A valuation allowance is established when necessary to reduce deferred tax assets to the amounts expected to be realized. We also recognize a tax benefit from uncertain tax positions only if it is “more likely than not” that the position is sustainable based on its technical merits. Our policy is to recognize interest and penalties on uncertain tax positions as a component of income tax expense.

Our provision for income taxes was $11,206 and $16,133 during the three months ended June 30, 2013 and 2012, respectively. The provision for income taxes was $20,949 and $166,538 during the six months ended June 30, 2013 and 2012, respectively. The provision for income taxes is a result of the difference between the treatment of goodwill for income tax purposes and for U.S. GAAP, resulting in a deferred tax liability which cannot be used to offset deferred tax assets. This deferred tax liability is included in our condensed consolidated balance sheet in other long-term liabilities.

*Basic and Diluted Net Loss Per Share*

*Income (loss) per share:* Basic income (loss) per share is computed by dividing consolidated net income (loss) by the weighted average number of common shares outstanding during the period, excluding unvested restricted stock.

For periods of net income when the effects are not anti-dilutive, diluted earnings per share is computed by dividing our net income by the weighted average number of shares outstanding and the impact of all potential dilutive common shares, consisting primarily of stock options, unvested restricted stock and stock

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 2 — Summary of Significant Accounting Policies – (continued)**

purchase warrants. The dilutive impact of our dilutive potential common shares resulting from stock options and stock purchase warrants is determined by applying the treasury stock method.

For the periods of net loss, diluted loss per share is calculated similarly to basic loss per share because the impact of all dilutive potential common shares is anti-dilutive due to the net losses. A total of approximately 11.7 million and 11.6 million potential dilutive securities have been excluded in the calculation of diluted net loss per share in the three and six months ended June 30, 2013 and 2012, respectively, because their inclusion would be anti-dilutive.

*Recent Accounting Pronouncements*

We have evaluated all issued and unadopted Accounting Standards Updates and believe the adoption of these will not have a material impact on our results of operations, financial position, or cash flows.

**Note 3 — Fair Value Measurements**

We define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. We report assets and liabilities that are measured at fair value using a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy maximizes the use of observable inputs and minimizes the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities.
- Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.
- Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

An asset's or liability's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. At each reporting period, we perform a detailed analysis of our assets and liabilities that are measured at fair value. All assets and liabilities for which the fair value measurement is based on significant unobservable inputs or instruments which trade infrequently and therefore have little or no price transparency are classified as Level 3.

We have segregated our financial assets and liabilities that are measured at fair value on a recurring basis into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date in the table below. We have no non-financial assets and liabilities that are measured at fair value on a recurring basis. As of June 30, 2013 and 2012 we had Level 3 derivative liabilities of approximately $1.8 million and $2.1 million, respectively.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 3 — Fair Value Measurements – (continued)**

The following table represents the Company's fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis:

| | As of June 30, 2013 | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Balance |
| Liabilities | | | | |
| Derivative instruments | $ — | $ — | $ 1,848,566 | $ 1,848,566 |

| | As of December 31, 2012 | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Balance |
| Liabilities | | | | |
| Derivative instruments | $ — | $ — | $ 1,295,613 | $ 1,295,613 |

The following table sets forth a summary of changes in the fair value of the Company's Level 3 liabilities for the six months ended June 30, 2013:

| Description | Balance as of December 31, 2012 | Unrealized Losses | Balance as of June 30, 2013 |
|---|---|---|---|
| Derivative liabilities related to stock purchase warrants | $ 1,295,613 | $ 552,953 | $ 1,848,566 |

The following table sets forth a summary of changes in the fair value of the Company's Level 3 liabilities for the six months ended June 30, 2012:

| Description | Balance as of December 31, 2011 | Unrealized Losses | Balance as of June 30, 2012 |
|---|---|---|---|
| Derivative liabilities related to stock purchase warrants | $ 1,886,652 | $ 167,853 | $ 2,054,505 |

At June 30, 2013 and 2012, derivative liabilities are comprised of warrants to purchase 2,899,991 shares of common stock. The warrants are considered to be derivative liabilities due to the presence of net settlement features and, as a result, are recorded at fair value at each balance sheet date, with changes in fair value recorded in the unaudited condensed consolidated statements of operations. The fair value of our warrants is determined based on the Black-Scholes option pricing model. Use of the Black-Scholes option pricing model requires the use of unobservable inputs such as the expected term, anticipated volatility and expected dividends.

**Quantitative Information about Level 3 Fair Value Measurements**

| Fair Value at 6/30/2013 | Valuation Technique | Unobservable Inputs |
|---|---|---|
| $1,848,566 | Black-Scholes option pricing model | Expected term |
| | | Expected dividends |
| | | Anticipated volatility |

Changes in any of the assumptions related to the unobservable inputs identified above may change the stock purchase warrants' fair value; increases in expected term, anticipated volatility and expected dividends generally result in increases in fair value, while decreases in these unobservable inputs generally result in decreases in fair value. Gains and losses on the fair value adjustments for these derivative instruments are classified in other expenses as the change in fair value of derivative instruments in our unaudited condensed consolidated statements of operations. The $0.6 million change in the market value of derivative instruments during the six-month period ended June 30, 2013 is due primarily to the change in the closing market price of our common stock, which was $1.12 per share as of December 31, 2012 and $1.59 per share as of June 28,

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 3 — Fair Value Measurements – (continued)**

2013. The $0.2 million change in the market value of derivative instruments during the six-month period ended June 30, 2012 is also due primarily to the change in our closing stock price, which was $1.27 per share as of December 30, 2011 and $1.39 per share as of June 29, 2012.

*Assets Measured at Fair Value on a Nonrecurring Basis*

The Company measures its long-lived assets, including, property and equipment and goodwill, at fair value on a nonrecurring basis. These assets are recognized at fair value when they are deemed to be other-than-temporarily impaired (see Note 2).

**Note 4 — Commitments and Contingencies**

*SIGA Litigation*

In December 2006, we filed a complaint against SIGA Technologies, Inc. (“SIGA”) in the Delaware Court of Chancery. The complaint alleged, among other things, that we have the right to license exclusively development and marketing rights for SIGA’s drug candidate, Arestvyr™ (Tecovirimat), pursuant to a Merger Agreement between the parties that was terminated in 2006. The complaint also alleged that SIGA failed to negotiate in good faith the terms of such a license pursuant to the terminated Merger Agreement.

In September 2011, the Court issued an opinion in the case finding that SIGA had breached certain contractual obligations to us and upholding our claims of promissory estoppel. The Court awarded us the right to receive 50% of all net profits (as defined in the court’s final judgment) related to the sale of Arestvyr™ and related products for 10 years following initial commercial sale of the drug once SIGA earns $40 million in net profits from the sale of Arestvyr™ and related products. The Court also awarded us one-third of our reasonable attorney's fees and expert witness fees, which amounts to approximately $2.4 million plus interest. In May 2012, the Court issued its final judgment. SIGA appealed aspects of the decision to the Delaware Supreme Court. In response, we cross-appealed other aspects of the decision.

In May 2013, the Delaware Supreme Court issued its ruling on the appeal, affirming the lower Court’s finding of breach of contract, reversing its finding of promissory estoppel, and remanding the case back to the Court of Chancery to reconsider the remedy and award of attorney's fees and expert witness costs in light of the Supreme Court’s opinion.

We can provide no assurances that on remand the Delaware Court of Chancery will re-instate its prior remedy or order another remedy for us, that SIGA will not appeal any subsequent decision by the Court of Chancery, or that SIGA will not be successful in any subsequent appeal. We have not yet recorded any amount due from SIGA in relation to this case.

*Government Contracting*

Payments to the Company on cost-plus-fee contracts are provisional. The accuracy and appropriateness of costs charged to U.S. Government contracts are subject to regulation, audit and possible disallowance by the Defense Contract Audit Agency and other government agencies such as BARDA. Accordingly, costs billed or billable to U.S. Government customers are subject to potential adjustment upon audit by such agencies. In our opinion, adjustments that may result from audits are not expected to have a material effect on our financial position, results of operations, or cash flows.

Changes in government policies, priorities or funding levels through agency or program budget reductions by the U.S. Congress or executive agencies could materially adversely affect the Company's financial condition or results of operations. Furthermore, contracts with the U.S. Government may be terminated or suspended by the U.S. Government at any time, with or without cause. Such contract suspensions or terminations could result in unreimbursable expenses or charges or otherwise adversely affect the Company's financial condition and/or results of operations.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 4 — Commitments and Contingencies – (continued)**

*Registration Rights Agreements*

We entered into a Registration Rights Agreement with the investors who participated in the July 2009 private placement of convertible notes and related warrants. We subsequently filed two registration statements on Form S-3 with the Securities and Exchange Commission to register the resale of the shares issuable upon conversion of the convertible notes and exercise of the related warrants, which registration statements have been declared effective. We are obligated to maintain the registration statements effective until the date when such shares (and any other securities issued or issuable with respect to or in exchange for such shares) have been sold. The convertible notes were converted or extinguished in 2010, although the related warrants remain outstanding. The warrants will expire on January 28, 2015.

We have separate registration rights agreements with investors, under which we have obligations to keep the corresponding registration statements effective until the registrable securities (as defined in each agreement) have been sold, and under which we may have separate obligations to file registration statements in the future on either a demand or "piggy-back" basis or both.

Under the terms of the convertible notes, which were converted or extinguished in 2010, if after the 2$^{nd}$ consecutive business day (other than during an allowable blackout period) on which sales of all of the securities required to be included on the registration statement cannot be made pursuant to the registration statement (a "Maintenance Failure"), we will be required to pay to each selling stockholder a one-time payment of 1.0% of the aggregate principal amount of the convertible notes relating to the affected shares on the initial day of a Maintenance Failure. Our total maximum obligation under this provision at June 30, 2013, would be approximately $0.2 million.

Following a Maintenance Failure, we will also be required to make to each selling stockholder monthly payments of 1.0% of the aggregate principal amount of the convertible notes relating to the affected shares on every 30$^{th}$ day after the initial day of a Maintenance Failure, in each case prorated for shorter periods and until the failure is cured. Our total maximum obligation under this provision would be approximate $0.2 million for each month until the failure, if it occurs, is cured.

*Vendor Litigation*

One of our vendors mishandled the storage of certain biological materials. The vendor filed suit against us in Delaware state court and we filed suit against the vendor in Maryland state court. The case was settled and we received approximately $0.5 million as a result of the settlement during the second quarter of 2013 which was recorded as a reduction in research and development expenses.

**Note 5 — Stockholders' Equity**

*Long-Term Incentive Plan*

In 2007, the Company's stockholders approved the 2007 Long-Term Incentive Compensation Plan (the "2007 Plan") which provides for the granting of incentive and non-qualified stock options, stock appreciation rights, performance units, restricted common awards and performance bonuses (collectively "awards") to Company officers and employees. Additionally, the 2007 Plan authorizes the granting of non-qualified stock options and restricted stock awards to Company directors and to independent consultants.

In 2008, the Company's shareholders approved amendments to the 2007 Plan, increasing from 3.5 million shares to 4.6 million shares the maximum number of shares authorized for issuance under the plan and adding an evergreen provision pursuant to which the number of shares authorized for issuance under the plan will increase automatically in each year, beginning in 2009 and continuing through 2015, according to certain limits set forth in the 2007 Plan. At June 30, 2013, there are approximately 9.3 million shares approved for issuance under the 2007 plan, of which approximately 2.5 million shares are available to be issued. The Board of Directors in conjunction with management determines who receives awards, the vesting conditions and the exercise price. Options may have a maximum term of ten years.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 5 — Stockholders' Equity – (continued)**

*Stock Purchase Warrants*

At June 30, 2013 and 2012 there were warrants outstanding to purchase 5,620,128 shares of our common stock, respectively. The warrants outstanding as of June 30, 2013 and 2012 were as follows:

| Number of Common Shares Underlying Warrants | Issue Date/Exercisable Date | Exercise Price | Expiration Date |
|---|---|---|---|
| 100,778[1] | Mar-07/Mar-07 | $3.97 | Mar-17 |
| 705,354[2] | Mar-09/Sep-09 | $3.00 | Sep-14 |
| 2,572,775[1] | Jul-09/Jan-10 | $2.50 | Jan-15 |
| 500,000[2] | Apr-10/Oct-10 | $1.89 | Oct-15 |
| 1,323,214[2] | Jul-10/Jan-11 | $1.63 | Jan-17 |
| 371,423[2] | Jun-11/Jun-11 | $3.50 | Jun-16 |
| 46,584[1] | Mar-12/Mar-12 | $1.61 | Mar-22 |
| 5,620,128 | | | |

(1) These warrants to purchase common stock are classified as equity.

(2) Because of the presence of net settlement provisions, these warrants to purchase common stock are classified as derivative liabilities. The fair value of these liabilities (see Note 3) is remeasured at the end of every reporting period and the change in fair value is reported in the unaudited condensed consolidated statements of operations as other income (expense).

**Note 6 — Financing Transactions**

*Controlled Equity Offering*

On March 25, 2013, we entered into a controlled equity offering arrangement with a sales agent pursuant to which we may offer and sell, from time to time, through the agent shares of our common stock having an aggregate offering price of up to $15.0 million. Under the arrangement, the agent may sell shares by any method permitted by law and deemed to be an "at-the-market" offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on NYSE MKT, or any other existing trading market for our Common Stock or to or through a market maker. Subject to the terms and conditions of that agreement, the agent will use commercially reasonable efforts, consistent with its normal trading and sales practices and applicable state and federal law, rules and regulations and the rules of NYSE MKT, to sell shares from time to time based upon our instructions. We are not obligated to sell any shares under the arrangement. We are obligated to pay the agent a commission of 3.0% of the aggregate gross proceeds from each sale of shares under the arrangement.

Total expenses incurred for the arrangement and the offering of shares thereunder, excluding commission payable to the agent, were approximately $304,000. Through June 30, 2013, we sold 2,777,336 shares of our common stock under this arrangement resulting in net proceeds (net of commission and offering costs) to the Company of approximately $4.2 million, of which approximately $0.5 million was not received until July 2013. As of June 30, 2013, aggregate gross sales for additional common stock of approximately $10.4 million remained available under the arrangement.

*Loan Agreement with GE Capital*

On March 30, 2012, we entered into a Loan Agreement with GE Capital. The Loan Agreement provides for a senior secured debt facility, including a $2.5 million term loan and a revolving line of credit of up to $5 million based on our outstanding qualified accounts receivable. On March 30, 2012, the term loan was funded for the full $2.5 million.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 6 — Financing Transactions – (continued)**

Under the terms of the revolving line of credit, the Company may draw down from the revolving line of credit up to 85% of qualified billed accounts receivable and 80% of qualified unbilled accounts receivable. As of June 30, 2013, the total amount available to draw was approximately $3.2 million, of which $1.2 million was drawn and outstanding.

The fixed interest rate on the term loan is 10.14% per annum. The revolving line of credit has an adjustable interest rate based upon the 3-month London Interbank Offered Rate (LIBOR), with a floor of 1.5%, plus 5%. As of June 30, 2013, the interest rate was 6.5%. Both the term loan and the revolving line of credit mature in September 2015. Payments on the term loan were originally interest-only for the first 10 months (which has since been extended to 12 months pursuant to terms of the agreement); subsequently, the term loan will fully amortize over its remaining term. Remaining principal payments on the term loan are scheduled as follows:

| Year | Principal Payments |
|---|---|
| 2013 | $ 499,998 |
| 2014 | 999,996 |
| 2015 | 750,007 |
| | $ 2,250,001 |

The term loan, net of a debt discount of $32,214, is recorded on our unaudited condensed consolidated balance sheet as follows:

| | |
|---|---|
| Current portion of long-term debt | $ 999,996 |
| Long-term debt, less current portion | $ 1,217,791 |

If we prepay the term loan and terminate the revolving line of credit prior to the scheduled maturity date, we are obligated to pay a prepayment premium equal to 3% of the then outstanding principal amount of the term loan if prepaid during the first two years of the loan and 2% if prepaid during the third year or thereafter. In addition, we are obligated to pay a final payment fee of 3% of the term loan balance. The final payment fee is being accrued and expensed over the term of the agreement, using the effective interest method and is included in other long-term liabilities on our unaudited condensed consolidated balance sheet.

Our obligations under the Loan Agreement are collateralized by a security interest in substantially all of our assets. While the security interest does not, except in limited circumstances, cover our intellectual property, it does cover any proceeds received by us from the use or sale of our intellectual property.

In connection with the Loan Agreement, we issued GE Capital warrants to purchase 46,584 shares of our common stock at an exercise price of $1.61 per share. The warrants are exercisable immediately and subject to customary and standard anti-dilution adjustments. The warrants are classified in equity and, as a result, the fair value of the warrants was charged to additional paid-in capital resulting in a debt discount at the date of issuance. The debt discount is being amortized over the term of the loan agreement using the effective interest method. Financing costs incurred in connection with this agreement are also being amortized over the term of the agreement using the effective interest method.

The estimated fair value of the Company’s outstanding borrowings under its revolving credit facility at June 30, 2013 was equal to its carrying value as of that date due to the short term nature of the Revolver’s repayment terms. The Company determined the estimated fair value of the Term Loan also approximated its carrying value as of June 30, 2013.

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 7 — Subsequent Events**

*Proposed Merger*

On July 31, 2013, PharmAthene entered into an agreement and plan of merger (the "Merger Agreement"), pursuant to which its wholly owned subsidiary, Taurus Merger Sub, Inc. ("Merger Sub"), will be merged with and into Theraclone Sciences, Inc., a Delaware corporation ("Theraclone"), with Theraclone as the surviving subsidiary (the "Merger").

Pursuant to the terms of the Merger Agreement, at the Effective Time (the "Effective Time"), each outstanding share of common stock of Theraclone will be converted into the right to receive a number of shares of PharmAthene common stock equal to the quotient obtained by dividing the fully diluted equity (as defined below) of PharmAthene by the fully diluted equity of Theraclone (the "Exchange Ratio"), less a pro rata share of PharmAthene common stock representing 5% of the merger consideration issuable to the stockholders of Theraclone (the "Escrow Shares"). The Merger Agreement defines "fully diluted equity" to mean, with respect to PharmAthene, the total number of shares outstanding of PharmAthene common stock assuming full conversion or exercise of all then outstanding options and warrants, which, in each case, have an exercise price less than or equal to $2.50 per share, and convertible securities. With respect to Theraclone, "fully diluted equity" means the total number of shares outstanding of Theraclone common stock, assuming full conversion or exercise of all then-outstanding options and warrants and all convertible securities. Holders of Theraclone common stock will receive cash in lieu of fractional shares. In addition, all outstanding Theraclone options, as well as Theraclone's 2004 Option Plan, will be assumed by PharmAthene. Each option or warrant to purchase one share of Theraclone common stock will be converted into an option or warrant, as the case may be, to purchase a number of shares of PharmAthene common stock representing the number of Theraclone shares for which the exchanged option or warrant was exercisable multiplied by the Exchange Ratio. The exercise price would be proportionately adjusted.

Following the consummation of the transactions contemplated by the Merger Agreement, the security holders of PharmAthene immediately prior to the Effective Time and the security holders of Theraclone immediately prior to the Effective Time will each own approximately 50% of the fully-diluted equity (without regard to PharmAthene options and warrants having an exercise price greater than $2.50 per share) after the Merger. The Escrow Shares described above, which will serve to secure the Theraclone stockholders' indemnification obligations under the Merger Agreement, will be deposited with Citibank, N.A., as escrow agent under a separate escrow agreement to be entered into prior to the completion of the Merger. The escrow period will expire nine months from the date of completion of the Merger.

The Merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended.

Pursuant to a related board of directors composition agreement between PharmAthene and certain former stockholders of Theraclone, which is expected to be entered into at completion of the Merger (the "Board Composition Agreement"), the nine-member board of directors of post-Merger PharmAthene (the "Board") will consist of five directors designated by PharmAthene and four directors designated by Theraclone. Those members will initially be Steve Gillis, Ph.D., Wende Hutton, Steven P. James, and Clifford J. Stocks of Theraclone, and Mitchel Sayare, Ph.D., Eric I. Richman, John M. Gill, Brian A. Markison and Derace L. Schaffer, M.D. of PharmAthene. Under the Board Composition Agreement, the executive officers and directors of PharmAthene, the directors of Theraclone and their affiliates, and certain holders of 5% or more of Theraclone's Capital stock (collectively, the "Signing Stockholders") will agree to vote all shares owned by such holders, or over which such holders have voting control, as necessary to ensure that the PharmAthene and Theraclone designees are elected to the Board at each annual or special meeting of stockholders of PharmAthene at which directors are elected or through any action taken by written consent of the stockholders of PharmAthene by which directors are elected. The Signing Stockholders will also agree to cause the resignation of one of PharmAthene's designees upon the earlier of (i) the full settlement or final,

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 7 — Subsequent Events – (continued)**

non-appealable resolution of PharmAthene's civil action against SIGA Technologies, Inc. ("SIGA") (the "SIGA Determination Date") and (ii) the second anniversary of the completion of the Merger, but not prior to the first anniversary of the completion of the Merger. We refer to this date as the "Designee Resignation Date." The Board Composition Agreement will obligate the Signing Stockholders to cause half of the members of all committees of the Board to be filled by Theraclone board designees and where a committee consists of an odd number of directors, the third director will be mutually agreed on by the PharmAthene and Theraclone members of such committee. The Board Composition Agreement will terminate on the earliest to occur of the fifth anniversary of the date of the Board Composition Agreement and the SIGA Determination Date, but not prior to the first anniversary of completion of the Merger. The Signing Stockholders may sell their shares free of the rights and obligations under the Board Composition Agreement.

Theraclone's current chief executive officer, Clifford J. Stocks, is expected to serve as the chief executive officer of the combined company, while Russ Hawkinson, Theraclone's current chief financial officer, is expected to serve as its chief financial officer. The Merger Agreement obligates PharmAthene to amend its Bylaws to provide that Clifford Stocks may not be removed from his position as chief executive officer of PharmAthene without the approval of at least 66 2/3% of the Board, until the earlier of the second anniversary of the date of the Merger Agreement or such time as there is a period longer than 30 days in which less than five PharmAthene board designees serve on the Board (provided that he may be removed by at least a majority of the then-serving members of PharmAthene's board of directors following the Designee Resignation Date).

Completion of the Merger is subject to a number of conditions, including, but not limited to (i) approval of the issuance of shares of PharmAthene common stock in connection with the Merger, and approval of an increase in the authorized number of shares of common stock, by PharmAthene's stockholders and the adoption and approval of the Merger Agreement and the transactions contemplated thereby by Theraclone's stockholders; (ii) the effectiveness of a registration statement on Form S-4 to be filed by PharmAthene with the Securities and Exchange Commission (the "SEC") to register the issuance of the shares of PharmAthene common stock in connection with the Merger, which will contain a joint proxy statement/prospectus; (iii) approval for listing on the NYSE MKT LLC of such shares of PharmAthene common stock; (iv) execution of the Board Composition Agreement; (v) exercise of appraisal rights by no more than 5% of PharmAthene's stockholders; (vi) the amendment of PharmAthene's Bylaws to limit the ability to remove Clifford Stocks as described above; (vii) all $8,000,000 of capital committed to Theraclone pursuant to its Series B-1 Preferred Stock and Warrant Purchase and Exchange Agreement shall have been delivered to Theraclone and (viii) other customary closing conditions.

Concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who beneficially own approximately 7.5% of the outstanding shares of PharmAthene common stock, entered into a voting agreement with Theraclone (the "PharmAthene Voting Agreement"), pursuant to which each stockholder agreed to vote its shares of PharmAthene common stock in furtherance of the transactions contemplated by the Merger Agreement and against any amendment of PharmAthene's Certificate of Incorporation or Bylaws or any other proposal or transaction, the effect of which amendment or other proposal is to delay, impair, prevent or nullify the Merger or the transaction contemplated by the Merger Agreement.

In addition, certain of Theraclone's stockholders, who in the aggregate held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013, entered into a voting agreement with PharmAthene (the "Theraclone Voting Agreement"), pursuant to which each stockholder agreed to vote its shares of Theraclone capital stock (i) in favor of the adoption of the Merger Agreement and any actions required in furtherance thereof, (ii) in favor of the conversion of all outstanding shares of Theraclone preferred stock into Theraclone common stock on a 1:1 basis (as of immediately prior to the Effective Time and contingent upon the Merger occurring) pursuant to Theraclone's restated Certificate of Incorporation,

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 7 — Subsequent Events – (continued)**

(iii) against any other proposal or transaction involving Theraclone, the effect of which amendment or other proposal or transaction would be to delay, impair, prevent or nullify the Merger or the transactions contemplated by the Merger Agreement, (iv) against any amendment of Theraclone's Certificate of Incorporation or Bylaws that changes in any manner the voting rights of any capital stock of Theraclone (other than the conversion of Theraclone preferred stock into Theraclone common stock), and (v) against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty of the Merger Agreement.

Both the PharmAthene Voting Agreement and the Theraclone Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement.

Concurrently and in connection with the execution of the Merger Agreement, the directors of Theraclone and their affiliates, as well as certain holders of 5% or more of Theraclone's capital stock, who in the aggregate held approximately 75% of the outstanding shares of Theraclone capital stock as of July 31, 2013, entered into post-closing lock-up agreements with PharmAthene (the "Post-Closing Lock-up Agreements"). Pursuant to these agreements, each such stockholder will be subject to lock-up restrictions on the sale of PharmAthene common stock acquired in the Merger, pursuant to which 33% of the shares obtained in the Merger may be sold six months after the completion of the Merger, 66% may be sold nine months after the completion of the Merger, and 100% may be sold after the first anniversary of the date of completion of the Merger.

Each of PharmAthene and Theraclone have made customary representations, warranties and covenants in the Merger Agreement, including among others, covenants that (i) each party will conduct its business in the ordinary course consistent with past practice during the interim period between execution of the Merger Agreement and completion of the Merger; (ii) each party will not engage in certain kinds of transactions or take certain actions during such period (including, but not limited to, the issuance and sale of its securities and the incurrence of debt, with certain exceptions); (iii) Theraclone will solicit approval by its stockholders of the Merger Agreement and the transactions contemplated thereby and the board of directors of Theraclone will recommend that its stockholders adopt and approve the Merger Agreement, subject to certain exceptions; and (iv) PharmAthene will convene and hold a meeting of its stockholders for the purpose of considering the approval of the issuance of shares of PharmAthene common stock in connection with the Merger, the election of the PharmAthene and Theraclone board designees and the authorization of additional shares of common stock and the board of directors of PharmAthene will recommend that its stockholders adopt and approve such proposals, subject to certain exceptions. PharmAthene also has agreed not to solicit proposals relating to alternative business combination transactions or enter into discussions or an agreement concerning any proposals for alternative business combination transactions, subject to exceptions in the event of its receipt of a "superior proposal," as defined in the Merger Agreement. All representations and warranties of Theraclone (but not PharmAthene) included in the Merger Agreement will survive the completion of the Merger and remain in full force and effect until nine months after the closing date.

The Merger Agreement contains termination rights in favor of each of PharmAthene and Theraclone in certain circumstances. If PharmAthene terminates the Merger Agreement pursuant to its superior proposal termination right, it is obligated to pay to Theraclone a break-up fee of $3,500,000. If the PharmAthene board of directors changes its voting recommendations to PharmAthene stockholders as a result of a Transaction Event and Theraclone terminates as a result of such change in recommendation, or if PharmAthene terminated the Merger Agreement as a result of a Transaction Event (as defined below), PharmAthene is obligated to pay Theraclone a break-up fee of $4,500,000. A "Transaction Event" is defined to occur if the Court of Chancery of the State of Delaware renders a substantive decision on the merits in PharmAthene's civil case against SIGA and within 20 business days thereafter the PharmAthene board of directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the Merger a merger of equals. In addition, either party may terminate the Merger Agreement if (i) the Merger has not been completed by

**PHARMATHENE, INC.**

**NOTES TO UNAUDITED CONDENSED FINANCIAL STATEMENTS**
**JUNE 30, 2013**

**Note 7 — Subsequent Events – (continued)**

January 31, 2014 (the "Outside Termination Date"), provided that if the registration statement on Form S-4 is not declared effective by October 4, 2013, then either party is generally entitled to extend the Outside Termination Date by 60 days, or (ii) the PharmAthene stockholders fail to approve the issuance of shares in the Merger, the increase in authorized shares of common stock or the election of the PharmAthene or Theraclone board designees. If (a) the Merger Agreement is terminated because the Merger has not been completed prior to the Outside Termination Date, (b) a takeover approval was announced prior to the PharmAthene stockholder meeting with respect to the Merger and (c) within nine months after the date of the termination of the Merger Agreement, PharmAthene enters into an agreement or understanding with respect to any takeover proposal that is subsequently completed, then PharmAthene is obligated to pay to Theraclone a break-up fee of $3,500,000. In certain other circumstances, PharmAthene will be obligated to reimburse Theraclone for expenses incurred in connection with the Merger, not to exceed $1,000,000. The Merger Agreement contains certain indemnification provisions, which, among other things, provide that Theraclone stockholders are not obligated, absent fraud or willful misconduct, to indemnify PharmAthene and its affiliates unless and until the aggregate amount of indemnification claims brought against them by PharmAthene and its affiliates is at least $1,000,000. In addition, no Theraclone stockholder has an obligation, absent fraud or willful misconduct of Theraclone, to indemnify PharmAthene or its affiliates for an amount in excess of such Theraclone stockholder's pro rata share of the Escrow Shares. The Merger Agreement furthermore appointed Steven Gillis, Ph.D. as the agent for and on behalf of the Theraclone stockholders with respect to the Merger Agreement and Escrow Agreement, as well as related matters.

*Controlled Equity Offering Arrangements*

Subsequent to June 30, 2013, we sold 1,105,837 shares of our common stock under the controlled equity offering arrangement, which resulted in net proceeds of approximately $1.7 million excluding the $0.5 million in proceeds from June sales that were not received until July (See Note 6). Aggregate gross proceeds of up to approximately $8.6 million remain available under the arrangement. However, under the terms of the Merger Agreement with Theraclone, we are currently prohibited from using the arrangement.

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## Report of Independent Auditors

The Board of Directors and Stockholders
Theraclone Sciences, Inc.

We have audited the accompanying financial statements of Theraclone Sciences, Inc., which comprise the balance sheets as of December 31, 2011 and 2012, and the related statements of operations and comprehensive loss, redeemable convertible preferred stock and stockholders' deficit, and cash flows for the years then ended, and the related notes to the financial statements.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Theraclone Sciences, Inc. at December 31, 2011 and 2012, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

Seattle, Washington
September 6, 2013

**Theraclone Sciences, Inc.**

**Balance Sheets**
***(In Thousands, Except Share and Per Share Amounts)***

| | December 31 | | June 30, 2013 |
|---|---|---|---|
| | 2011 | 2012 | (Unaudited) |
| **Assets** | | | |
| Current assets: | | | |
| Cash and cash equivalents | $ 15,799 | $ 5,426 | $ 7,215 |
| Accounts receivable | 80 | 2,012 | 608 |
| Prepaid expenses | 693 | 182 | 262 |
| Redeemable convertible preferred stock forward contract | — | — | 53 |
| Total current assets | 16,572 | 7,620 | 8,138 |
| Property and equipment, net | 1,902 | 1,355 | 1,267 |
| Prepaid debt issuance costs | — | — | 128 |
| Total assets | $ 18,474 | $ 8,975 | $ 9,533 |
| **Liabilities, redeemable convertible preferred stock, and stockholders' deficit** | | | |
| Current liabilities: | | | |
| Accounts payable | $ 698 | $ 721 | $ 181 |
| Accrued liabilities | 823 | 1,373 | 1,419 |
| Deferred revenue, current portion | 9,970 | 4,203 | 916 |
| Notes payable, current portion | 598 | 549 | 992 |
| Deferred rent, current portion | 116 | — | — |
| Total current liabilities | 12,205 | 6,846 | 3,508 |
| Deferred revenue, less current portion | 1,544 | — | — |
| Notes payable, less current portion | 506 | 263 | 2,473 |
| Deferred rent, less current portion | — | 253 | 403 |
| Redeemable convertible preferred stock warrant liability | 51 | 48 | 175 |
| Commitments and contingencies | — | — | — |
| Redeemable convertible preferred stock, $0.001 par value per share; 37,765,145 shares authorized at June 30, 2013; 32,956,403, 32,956,403, and 34,706,934 shares issued and outstanding at December 31, 2011 and 2012, and June 30, 2013, respectively; aggregate liquidation preference of $57,591, $60,410, and $64,531 at December 31, 2011 and 2012 and June 30, 2013, respectively | 57,182 | 60,008 | 63,996 |
| Stockholders' deficit: | | | |
| Common stock, $0.001 par value per share; 60,000,000 shares authorized at June 30, 2013; 1,346,898, 1,346,898 and 2,276,872 shares issued and outstanding at December 31, 2011 and 2012 and June 30, 2013, respectively | 1 | 1 | 2 |
| Additional paid-in capital | — | — | — |
| Accumulated deficit | (53,015) | (58,444) | (61,024) |
| Total stockholders' deficit | (53,014) | (58,443) | (61,022) |
| Total liabilities, redeemable convertible preferred stock, and stockholders' deficit | $ 18,474 | $ 8,975 | $ 9,533 |

*See accompanying notes.*

**Theraclone Sciences, Inc.**

**Statements of Operations and Comprehensive Loss**
***(In Thousands Except Share and Per Share Amounts)***

| | Year Ended December 31 | | Six Months Ended June 30 | |
|---|---|---|---|---|
| | 2011 | 2012 | 2012 | 2013 |
| | | | (Unaudited) | |
| Revenue | $ 8,384 | $ 19,360 | $ 4,167 | $ 4,495 |
| Operating expenses: | | | | |
| Research and development | 14,816 | 19,611 | 6,594 | 5,608 |
| General and administrative | 1,827 | 2,461 | 1,100 | 1,390 |
| Total operating expenses | 16,643 | 22,072 | 7,694 | 6,998 |
| Loss from operations | (8,259) | (2,712) | (3,527) | (2,503) |
| Other income (expense): | | | | |
| Change in fair value of financial instruments | 4 | 3 | — | 228 |
| Interest income | 1 | — | — | — |
| Interest expense | (104) | (69) | (37) | (107) |
| Net loss | (8,358) | (2,778) | (3,564) | (2,382) |
| Comprehensive loss | (8,358) | (2,778) | (3,564) | (2,382) |
| Accretion of redeemable convertible preferred stock | (2,381) | (2,826) | (1,417) | (1,429) |
| Net loss attributable to common stockholders | $ (10,739) | $ (5,604) | $ (4,981) | $ (3,811) |
| Net loss per share attributable to common stockholders – basic and diluted | $ (8.07) | $ (4.16) | $ (3.70) | $ (1.98) |
| Weighted average common shares outstanding – basic and diluted | 1,330,968 | 1,346,898 | 1,346,898 | 1,919,767 |

*See accompanying notes.*

**Theraclone Sciences, Inc.**

**Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit**

***(In Thousands, Except Share and Per Share Amounts)***

| | Redeemable Convertible Preferred Stock | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Series A | | Series A-1 | | Series B | | Series B-1 | | Common Stock | | Additional Paid-In Capital | Deficit Accumulated | Total Stockholders' Deficit |
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | | | |
| Balances, December 31, 2010 | 4,900,000 | $ 6,482 | — | — | 20,333,334 | $ 36,734 | — | — | 1,289,687 | $ 1 | $ — | $ (42,442) | $ (42,441) |
| Stock options exercised for cash | — | — | — | — | — | — | — | — | 57,211 | — | 11 | — | 11 |
| Issuance of Series B redeemable convertible preferred stock at $1.50 per share net of issuance costs | — | — | — | — | 7,723,069 | 11,585 | — | — | — | — | (33) | — | (33) |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — | 188 | — | 188 |
| Accretion of Series A and B redeemable convertible preferred stock | — | 303 | — | — | — | 2,078 | — | — | — | — | (166) | (2,215) | (2,381) |
| Net loss | — | — | — | — | — | — | — | — | — | — | — | (8,358) | (8,358) |
| Balances, December 31, 2011 | 4,900,000 | 6,785 | — | — | 28,056,403 | 50,397 | — | — | 1,346,898 | 1 | — | (53,015) | (53,014) |
| Issuance costs of Series B redeemable convertible preferred stock at $1.50 per share | — | — | — | — | — | — | — | — | — | — | (13) | — | (13) |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — | 188 | — | 188 |
| Accretion of Series A and B redeemable convertible preferred stock | — | 296 | — | — | — | 2,530 | — | — | — | — | (175) | (2,651) | (2,826) |
| Net loss | — | — | — | — | — | — | — | — | — | — | — | (2,778) | (2,778) |
| Balances, December 31, 2012 | 4,900,000 | 7,081 | — | — | 28,056,403 | 52,927 | — | — | 1,346,898 | 1 | — | (58,444) | (58,443) |
| Stock options exercised for cash (unaudited) | — | — | — | — | — | — | — | — | 13,845 | — | 3 | — | 3 |
| Conversion in connection with Series B-1 agreement (unaudited) | (4,900,000) | (7,081) | 4,765,145 | 6,946 | (28,056,403) | (52,927) | 27,275,122 | 51,755 | 916,129 | 1 | 1,306 | — | 1,307 |
| Issuance of Series B-1 redeemable convertible preferred stock at $1.50 per share net of forward contract liability of $134 (unaudited) | — | — | — | — | — | — | 2,666,667 | 3,866 | — | — | (65) | — | (65) |
| Issuance of series B-1 redeemable convertible preferred stock warrants in connection with debt agreement and Series B-1 issuance (unaudited) | — | — | — | — | — | — | — | — | — | — | (114) | — | (114) |
| Stock-based compensation (unaudited) | — | — | — | — | — | — | — | — | — | — | 101 | — | 101 |
| Accretion of Series A-1 and B-1 redeemable convertible preferred stock (unaudited) | — | | — | 146 | — | | — | 1,283 | — | — | (1,231) | (198) | (1,429) |
| Net loss (unaudited) | — | — | — | — | — | — | — | — | — | — | — | (2,382) | (2,382) |
| Balances, June 30, 2013 (unaudited) | — | $ — | 4,765,145 | $ 7,092 | — | $ — | 29,941,789 | $ 56,904 | 2,276,872 | $ 2 | $ — | $ (61,024) | $ (61,022) |

*See accompanying notes.*

**Theraclone Sciences, Inc.**

**Statements of Cash Flows**
***(In Thousands)***

| | Year Ended December 31 | | Six Months Ended June 30 | |
|---|---|---|---|---|
| | 2011 | 2012 | 2012 | 2013 |
| | | | (Unaudited) | |
| **Operating activities** | | | | |
| Net loss | $ (8,358) | $ (2,778) | $ (3,564) | $ (2,382) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | | |
| Amortization of debt discount | 23 | 13 | 3 | 36 |
| Depreciation and amortization | 948 | 836 | 476 | 289 |
| Stock-based compensation | 188 | 188 | 110 | 101 |
| Change in fair value of financial instruments | (4) | (3) | — | (228) |
| Changes in operating assets and liabilities: | | | | |
| Accounts receivable | 4,040 | (1,932) | 25 | 1,404 |
| Prepaid expenses | (485) | 511 | (1,899) | (80) |
| Accounts payable and accrued liabilities | 308 | 573 | (480) | (494) |
| Deferred revenue | (500) | (7,311) | (1,918) | (3,287) |
| Deferred rent | (178) | 137 | 179 | 150 |
| Net cash used in operating activities | (4,018) | (9,766) | (7,068) | (4,491) |
| **Investing activities** | | | | |
| Purchases of property and equipment | (1,167) | (289) | (130) | (201) |
| Net cash used in investing activities | (1,167) | (289) | (130) | (201) |
| **Financing activities** | | | | |
| Proceeds from note payable net of issuance costs | 1,141 | 382 | 382 | 2,818 |
| Proceeds from issuance of common stock | 11 | — | — | 3 |
| Proceeds from issuance of redeemable convertible preferred stock net of issuance costs | 11,552 | (13) | — | 3,935 |
| Principal payments on notes payable | (866) | (687) | (376) | (275) |
| Net cash provided by (used in) financing activities | 11,838 | (318) | 6 | 6,481 |
| Net increase (decrease) in cash and cash equivalents | 6,653 | (10,373) | (7,192) | 1,789 |
| Cash and cash equivalents, beginning of year | 9,146 | 15,799 | 15,799 | 5,426 |
| Cash and cash equivalents, end of period | $ 15,799 | $ 5,426 | $ 8,607 | $ 7,215 |
| **Supplemental disclosures** | | | | |
| Cash paid for interest | $ 88 | $ 62 | $ 34 | $ 68 |
| Accretion of redeemable convertible preferred stock | $ 2,381 | $ 2,826 | $ 1,417 | $ 1,429 |

*See accompanying notes.*

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**(Information as of June 30, 2013
and for the six months ended June 30, 2012 and 2013 is unaudited)**

## 1. Description of Business

Theraclone Sciences, Inc. (the Company) is a biopharmaceutical company focused on the discovery and development of novel, monoclonal antibody therapeutics for diseases that are devastating for patients and their families and which are a significant threat to human health. Theraclone leverages its proprietary antibody discovery technology, I-STAR (In-Situ Therapeutic Antibody Rescue), to rapidly identify rare human antibodies that may be developed into antibody product candidates that are potentially safer and more effective than current therapies. The Company has two infectious disease product candidates in clinical development: TCN-032, for the treatment of patients hospitalized with serious influenza, has completed a Phase 2a trial; and TCN-202, for the treatment and prevention of CMV infections is currently being evaluated in a Phase 2a trial in solid organ transplant patients.

The Company's business involves inherent risks. These risks include, among others, dependence on key personnel, patentability of the Company's products and processes, and clinical efficacy of the Company's products under development. Any of the technologies covering the Company's existing products under development could become obsolete or diminished in value by discoveries and developments at other organizations.

## 2. Significant Accounting Policies

### Unaudited Interim Financial Information

The accompanying balance sheet as of June 30, 2013, the statements of operations and comprehensive loss and the statements of cash flows for the six months ended June 30, 2012 and 2013 and the statement of redeemable convertible preferred stock and stockholders' deficit for the six months ended June 30, 2013 are unaudited. The unaudited interim financial statements have been prepared on the same basis as the annual financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, necessary to present fairly the Company's financial position as of June 30, 2013 and results of operations and cash flows for the six months ended June 30, 2012 and 2013. The financial data and other information disclosed in these notes to financial statements related to the six-month periods are unaudited. The results of the six months ended June 30, 2013 are not necessarily indicative of the results to be expected for the year ending December 31, 2013 or for any other interim period or for any other future year.

### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

### Cash and Cash Equivalents

The Company considers all highly liquid investments with a purchased maturity of three months or less to be cash and cash equivalents. The Company's cash equivalents consist principally of money market securities. Cash and cash equivalents of $63,000 are used as security for a standby letter of credit with a financial institution.

### Accounts Receivable

The Company records accounts receivable for amounts due from collaborative partners for research and development services rendered. Accounts receivable are recorded at the invoiced amounts and do not bear interest. Amounts collected from accounts receivable are included in net cash provided by operating activities in the statements of cash flows. Historically, no amounts have been written off, and an allowance for doubtful accounts is not deemed necessary.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**2. Significant Accounting Policies – (continued)**

**Concentration of Credit Risk**

The Company is exposed to credit risk from its deposits of cash and cash equivalents in excess of amounts insured by the Federal Deposit Insurance Corporation. The Company has not experienced any losses on its deposits of cash and cash equivalents since inception.

**Fair Value of Financial Instruments**

The carrying amounts reported in the balance sheets for cash and cash equivalents, accounts payable, accrued liabilities, and deferred revenue approximate their fair values due to the short-term nature of those amounts. The carrying amount approximated the fair value of the Company's notes payable at December 31, 2011, 2012 and June 30, 2013, as estimated using current market interest rates for companies with similar credit and risk profiles.

**Property and Equipment**

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the depreciable assets, ranging from three to five years. Leasehold improvements are amortized over the shorter of the applicable remaining lease term or the estimated useful life of the related asset. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the accounts, and any resulting gain or loss is reflected in the statements of operations in the year of disposition. Additions and improvements that increase the value or extend the life of an asset are capitalized. Repairs and maintenance costs are expensed as incurred.

**Impairment of Long-Lived Assets**

The Company recognizes impairment losses on long-lived assets when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying values. The Company has not experienced any impairment losses on its long-lived assets since inception.

**Revenue Recognition**

Revenue is recognized when there is persuasive evidence that an arrangement exists, service has been provided, the price is fixed or determinable and collection is reasonably assured.

*Multiple Element Arrangements*

Theraclone's collaborative agreements with Pfizer, Zenyaku Kogyo and the International AIDS Vaccine Initiative ("IAVI") are multiple element arrangements that must be analyzed to identify the deliverables included in the agreements to determine if the deliverables qualify as separate units of accounting. The terms of the agreements may include nonrefundable license fees, funding of research and development activities and payments based upon the achievement of clinical or revenue milestones and royalties. Deliverables are considered a separate unit of accounting when all of the following criteria are met: (i) the delivered item has value to the customer on a standalone basis and (ii) if the arrangement includes a general right of return relative to the delivered item, the delivery or performance of the undelivered item is considered probable and substantially in Theraclone's control. There are no rights of return in Theraclone's collaborative agreements. Multiple contracts with a single party are evaluated as one arrangement if the contracts were entered into in contemplation of each other.

Theraclone's collaborative agreements with multiple elements do not meet the criteria for separate units of accounting and therefore are treated as combined units of accounting to determine appropriate recognition of revenue. For combined units of accounting, the revenue is generally recognized in the same manner as the final deliverable. Revenue is recognized in a manner consistent with the nature of the agreements, which generally is based on a proportional performance methodology, over the estimated term of the research and

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**2. Significant Accounting Policies – (continued)**

development service period. In certain circumstances revenue may be recognized on a straight-line basis over the estimated service period or immediately if there is no continuing obligation for the specific deliverable. The estimated term of the research and development service period is reviewed and adjusted based on the status of the project against the estimated timeline as additional information becomes available. Payments received in advance of work performed are recorded as deferred revenue and recognized when earned.

*Substantive Milestone Payments*

Theraclone's collaboration agreements with Pfizer and Zenyaku Kogyo provide for substantive milestones. A milestone is defined as an event that meets the following conditions: (i) there is substantive uncertainty on the date the arrangement is entered into about whether the event will be achieved; (ii) achievement of the event is based in whole, or in part, on either Theraclone's performance or a specific outcome resulting from Theraclone's performance; and (iii) achievement of the event results in additional payment due to Theraclone. For a milestone to be considered substantive, the payment associated with its achievement must have all of the following characteristics: (i) relate solely to Theraclone's past performance; (ii) be reasonable, relative to all of the deliverables and payment terms in the arrangement; and (iii) be commensurate with either Theraclone's effort required to achieve the milestone or the enhanced value of the delivered item(s) as a result of the milestone achievement.

Substantive milestone payments are recognized upon achievement of the milestone only if all of the previous conditions are met and the milestone payments are nonrefundable. Determination as to whether a payment meets the aforementioned conditions involves management's judgment. Theraclone has evaluated the nature of its arrangements and has elected to make a policy election to apply the milestone method where appropriate for its arrangements.

If any of the foregoing conditions are not met, the resulting payment would not be considered a substantive milestone, and therefore, the resulting payment would be determined to be part of the allocable arrangement consideration and would be recognized as revenue as such performance obligations are performed under either the proportional performance or time-based methods, as applicable, and in accordance with the policies as described above.

**Research and Development**

Research and development costs consist primarily of salaries and benefits, occupancy, materials and supplies, contracted research, consulting arrangements, and other expenses incurred to sustain the Company's research and development programs. Research and development costs are expensed as incurred.

**Patent Costs**

Costs related to filing and pursuing patent applications are expensed as incurred, as recoverability of such expenditures is uncertain. These patent-related legal costs are reported as a component of general and administrative expenses.

**Income Taxes**

The Company accounts for income taxes under the liability method. Under the liability method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and federal income tax bases of assets and liabilities and are measured using the tax rates that will be in effect when the differences are expected to reverse. A valuation allowance is recorded when it is more likely than not that the net deferred tax asset will not be realized.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**2. Significant Accounting Policies – (continued)**

The Company recognizes the financial statement effects of a tax position only if it is more likely than not that the tax position will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The Company does not believe any uncertain tax positions currently pending will have a material adverse effect on its financial statements nor does the Company expect any material change in its position in the next 12 months. Penalties and interest, of which there are none, would be reflected in income tax expense.

**Comprehensive Loss**

Comprehensive loss consists of net loss and other gains and losses affecting stockholders' deficit that under GAAP are excluded from net loss. The Company has no items of other comprehensive loss; as such, net loss equals comprehensive loss.

**Net Loss Per Share**

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of common shares outstanding for the period. Because the Company has reported a net loss for the years ended December 31, 2011 and 2012 and for the six months ended June 30, 2012 and 2013, and because potentially dilutive securities were anti-dilutive, diluted net loss per share is the same as basic net loss per share. The Company has excluded all outstanding common stock options and warrants and convertible preferred stock from the calculation of diluted net loss per share applicable to common stockholders because all such securities are anti-dilutive to the computation of net loss per share.

Historical outstanding dilutive securities not included in diluted loss per common share calculation are as follows:

| | Year Ended December 31 | | Six Months Ended June 30 | |
|---|---|---|---|---|
| | 2011 | 2012 | 2012 | 2013 |
| | | | (unaudited) | |
| Redeemable convertible preferred stock | 32,956,403 | 32,956,403 | 32,956,403 | 34,706,934 |
| Forward contract to purchase preferred stock | — | — | — | 2,666,667 |
| Outstanding options to purchase common stock | 7,970,772 | 8,241,278 | 8,125,894 | 8,772,422 |
| Warrants to purchase common stock | 4,832,554 | 4,832,554 | 4,832,554 | 4,832,554 |
| Warrants to purchase preferred stock | 53,334 | 53,334 | 53,334 | 307,473 |
| Total | 45,813,063 | 46,083,569 | 45,968,185 | 51,286,050 |

**Stock-Based Compensation**

The Company's stock-based compensation costs are based upon the grant date fair value of options estimated using the Black-Scholes-Merton option pricing model. This model utilizes as inputs the estimated fair value of the underlying common stock at the measurement date, the estimated term of the stock options, risk-free interest rates, expected dividends, and the expected volatility of the Company's common stock.

The Company recognizes compensation expense for options granted to nonemployees by remeasuring such stock options to the current fair value at each reporting date until the performance date has been reached.

**Accretion of Redeemable Convertible Preferred Stock**

Accretion of redeemable convertible preferred stock includes the accretion of the value of unpaid dividends into the carrying value of redeemable convertible preferred stock. Issuance costs that are material are amortized on a straight line basis over the period ending on the date when the preferred stock is first redeemable.

**Redeemable Convertible Preferred Stock Warrant Liability**

The Company accounts for convertible preferred stock warrants as liabilities that are remeasured at fair value at each reporting date. Changes in fair value are recorded as a component of other income (expense).

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**2. Significant Accounting Policies – (continued)**

**Redeemable Convertible Preferred Stock Forward Contract (unaudited)**

In connection with the first closing of Series B-1 Convertible Preferred Stock (Series B-1) and Warrant Purchase and Exchange Agreement (Series B-1 Agreement) in March 2013, the holders received the right to participate in the second closing (the Forward Contract). The Forward Contract was recorded as a liability, at the estimated fair value of the obligation in March 2013 and adjusted to fair value at June 30, 2013. The change in fair value of the Forward Contract for the three-months ended June 30, 2013 resulted in an asset as of June 30, 2013 as a result of the decrease in the estimated fair value of the Company's Series B-1 stock at June 30, 2013. The $187,000 change in fair value is recorded as other expense (income) in the statements of operations. The Forward Contract was outstanding and valued at $53,000 as of June 30, 2013, and was settled in August 2013. The following summarizes the terms of the Forward Contract and the impact on the accompanying financial statements as of the period through June 30, 2013:

| | | |
|---|---|---|
| Date of issuance | | March 2013 |
| Settlement date | | August 2013 |
| Number of shares originally purchased | | 2,666,667 |
| Additional number of shares that can be purchased | | 2,666,667 |
| Price at which the additional shares can be purchased | $ | 1.50 |
| Estimated fair value of the Forward Contract at: | | |
| Date of Issuance | $ | (134,000) |
| June 30, 2013 | $ | 53,000 |
| Change in fair value included in other expense for the six months ended June 30, 2013 | $ | 187,000 |

**Fair Value Measurements**

The Company defines fair value as the estimated price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value maximize the use of observable inputs and minimize the use of unobservable inputs. The hierarchy of fair value measurements is described below:

*Level 1* — Quoted prices in active markets.

*Level 2* — Inputs, other than quoted prices, that are either directly or indirectly observable for the asset or liability.

*Level 3* — Unobservable inputs that reflect the Company's best estimate of what market participants would use in the pricing of an asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation technique and in the inputs to the model.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**2. Significant Accounting Policies – (continued)**

The following schedule presents assets and liabilities measured at fair value on a recurring basis based on the nature of significant inputs (in thousands):

| | Fair Value Measurements at June 30, 2013, Using (unaudited) | | |
|---|---|---|---|
| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
| Money market funds | $ 7,215 | $ — | $ — |
| Redeemable convertible preferred stock warrant liability | — | — | $ 175 |
| Redeemable convertible preferred stock forward contract | — | — | $ 53 |

| | Fair Value Measurements at December 31, 2012, Using | | |
|---|---|---|---|
| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
| Money market funds | $ 5,426 | $ — | $ — |
| Redeemable convertible preferred stock warrant liability | — | — | 48 |

| | Fair Value Measurements at December 31, 2011, Using | | |
|---|---|---|---|
| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
| Money market funds | $ 15,583 | $ — | $ — |
| Redeemable convertible preferred stock warrant liability | — | — | 51 |

The Company estimated the fair value of its convertible preferred stock warrant liability using a Black-Scholes-Merton option-pricing model and the following assumptions as of December 31, 2011 and 2012: volatility of 65%, expected life of six and five years, estimated fair value of Series B convertible preferred stock of $1.50 per share, no dividends, and a risk-free interest rate of 2% and 1%, respectively.

Beginning in 2013 the Company estimated the fair value of its preferred stock warrant liability on a marketable minority basis using the Option Pricing Model (OPM) using the following assumptions as of June 30, 2013: volatility of 55%, expected life of 0.92 years, estimated fair value of Series B convertible preferred stock of $1.48 per share, no dividends, and a risk-free interest rate of 0.13%.

The Company estimated the fair value of its preferred stock forward contract using an OPM that employed the following assumptions as of June 30, 2013: volatility of 55%, expected life of 0.92 years, a 6% annual dividend, and a risk-free interest rate of 0.13%. The difference between the concluded fair value of the Series B shares at $1.48 and the future obligation of $1.50 represents a liability to the investors and is thus an asset of Theraclone. To calculate the present value of this asset, the $.02 per share difference was discounted to a present value employing the weighted average cost of capital of Theraclone of 24%.

Expected volatility and expected life are unobservable inputs to the estimated fair value of its preferred stock warrant liability that are inter-related to the market value or price of the Company’s preferred stock, since the calculation for volatility is based on the prices of a composite of similar publicly traded companies. However, even a significant change in expected volatility and/or expected life would not have a material effect on the estimated value of the preferred stock warrant liability as the accruing dividend results in the allocation of the change in value to the preferred stock and not the warrant liability.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**2. Significant Accounting Policies – (continued)**

Expected volatility is an unobservable input to the estimated fair value of its Forward Contract that is inter-related to the market value or price of the Company's preferred stock, since the calculation for volatility is based on the prices of a composite of similar publicly traded companies. If volatility were to change by approximately 60%, the value of the Forward Contract would change by approximately $150,000.

The reconciliation of the beginning and ending balances of the liability (asset) measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during 2011, 2012 and the six months ended June 30, 2013, is presented below (in thousands):

| | Redeemable Convertible Preferred Stock Warrant Liability | Redeemable Convertible Preferred Stock Forward Contract |
|---|---|---|
| Beginning balance, January 1, 2011 | $ 32 | $ — |
| Change in fair value | (4) | — |
| Issuances | 23 | — |
| Transfers in and/or out of Level 3 | — | — |
| Ending balance, December 31, 2011 | 51 | — |
| Change in fair value | (3) | — |
| Issuances | — | — |
| Transfers in and/or out of Level 3 | — | — |
| Ending balance, December 31, 2012 | 48 | — |
| Change in fair value (unaudited) | (41) | (187) |
| Issuances (unaudited) | 168 | 134 |
| Transfers in and/or out of Level 3 (unaudited) | — | — |
| Ending balance, June 30, 2013 (unaudited) | $ 175 | $ (53) |

**3. Property and Equipment**

Property and equipment consists of the following at (in thousands):

| | Estimated Useful Lives (Years) | December 31 | | June 30, 2013 |
|---|---|---|---|---|
| | | 2011 | 2012 | (unaudited) |
| Laboratory equipment | 5 | $ 4,972 | $ 5,201 | $ 5,396 |
| Leasehold improvements | 1 to 5 | 365 | 396 | 396 |
| Computer and office equipment | 3 to 5 | 230 | 259 | 265 |
| | | 5,567 | 5,856 | 6,057 |
| Less: Accumulated depreciation and amortization | | (3,665) | (4,501) | (4,790) |
| | | $ 1,902 | $ 1,355 | $ 1,267 |

Depreciation and amortization expense for the years ended December 31, 2011 and 2012 and for the six months ended June 30, 2012 and 2013 totaled approximately $948,000, $836,000, $476,000 and $289,000, respectively.

**4. Notes Payable**

**Equipment Financing Agreement**

On December 27, 2007, the Company entered into a Master Security Agreement with a finance company under which the Company could borrow up to $5,000,000 for equipment purchases through September 2008. The first such borrowing occurred on December 27, 2007, upon execution of a promissory note in the amount of $1,276,000. The note bears interest at the rate of 10.64% per annum and had a term of four years. During

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**4. Notes Payable – (continued)**

2008, the Company entered into two additional promissory notes under the Master Security Agreement for proceeds of $804,000 and $411,000 with interest rates of 10.47% and 14.12%, respectively. All of the promissory notes were paid in full as of December 31, 2012.

In connection with the Master Security Agreement, the Company issued a warrant to purchase 33,334 shares of Series B convertible preferred stock at an exercise price of $1.50 per share to the lender. The amount of net proceeds allocated to the warrant, based on its estimated fair value of $42,000, was recorded as a debt discount and was amortized as interest expense over the term of the outstanding loan. The debt discount balance was fully expensed in 2011.

**Loan and Security Agreement**

On May 19, 2011, the Company entered into a Loan and Security Agreement with a financial institution under which the Company could borrow up to $1,500,000 for equipment purchases through May 2012. The first advance under the Loan and Security Agreement occurred on May 19, 2011, for $763,000 and a second advance occurred on September 1, 2011, for $355,000. On May 2, 2012, the Company borrowed the remaining $382,000 under the Loan and Security Agreement. These advances have terms of 36, 30, and 30 months, respectively, and bear interest at the rate of 5.5% per annum. All of the advances under the Loan and Security Agreement are secured by the laboratory and office equipment purchased with the proceeds of the notes.

In connection with the Loan and Security Agreement, the Company issued a warrant to purchase 20,000 shares of Series B convertible preferred stock at an exercise price of $1.50 per share to the lender. The amount of net proceeds allocated to the warrant, based on its estimated fair value of $23,000, was recorded as a debt discount and will be amortized as interest expense over the term of the outstanding loan. The remaining debt discount balance was $18,500 as of December 31, 2012.

**Credit and Security Agreement**

On March 11, 2013, the Company entered into a Credit and Security Agreement with a financial institution whereby the Company can borrow up to $6 million for working capital purposes under the credit facility. The Company borrowed and received $3 million under the Credit and Security Agreement in March 2013, and borrowed the remaining $3 million in August 2013. The credit facility has a term of 45 months and bears interest at a rate of 7% and an interest-only period of nine months from initiation of the agreement. The Credit and Security Agreement is secured by the Company's assets not already included as collateral under its May 2011 Loan and Security Agreement. Also, the Credit and Security Agreement includes certain covenants, which the Company is in compliance with.

In connection with the Credit and Security Agreement, the Company issued warrants to purchase 180,000 shares of Series B-1 convertible preferred stock at an exercise price of $1.50 per share to the lender. The amount of net proceeds allocated to the warrant, based on its estimated fair value of $54,000, was recorded as a debt discount and will be amortized as interest expense over the term of the outstanding loan.

Annual required principal payments on notes payable as of December 31, 2012, are as follows (in thousands):

| | |
|---|---|
| 2013 | $ 549 |
| 2014 | 282 |
| 2015 | — |
| | $ 831 |

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

## 5. Redeemable Convertible Preferred Stock

The following is a summary of the rights, preferences and terms of the Company's outstanding series of Preferred Stock (in thousands, except share and per share data):

| Series | Original Issuance | Liquidation Price Per Share | Shares Outstanding at December 31, 2011 | Shares Outstanding at December 31, 2012 | Shares Outstanding at June 30, 2013 |
|---|---|---|---|---|---|
| | | | | | (unaudited) |
| Series A | 2004 - 2007 | $ 1.00 | 4,900,000 | 4,900,000 | — |
| Series B | 2011 | $ 1.50 | 28,056,403 | 28,056,403 | — |
| Series A-1 | 2013 | $ 1.00 | — | — | 4,765,145 |
| Series B-1 | 2013 | $ 1.50 | — | — | 29,941,789 |
| Total | | | 32,956,403 | 32,956,403 | 34,706,934 |

### Series B-1 Issuance

In March 2013, the Company entered into the Series B-1 Agreement with current stockholders. Under the Series B-1 Agreement, the Company sold an additional 5,333,334 shares of Series B-1 preferred convertible stock at a price of $1.50 per share in two closings. The first closing for 2,666,667 shares occurred in March 2013 and the second closing for 2,666,667 shares occurred in August 2013. In connection with the transaction, existing Series A and B convertible preferred stock was converted into shares of Series A-1 and B-1, respectively and 916,129 shares of Series A and B convertible preferred stock did not convert into Series A-1 or B-1, and were converted to an equal number of shares of common stock. The Company received net proceeds of $3,935,000, net of issuance costs of $65,000, from the first closing and approximately $4,000,000 from the second closing.

Certain investors who participated beyond their pro rata share, received one Series B-1 warrant for each share of Series B-1 stock purchased above their pro rata amount. The warrants have an exercise price of $0.01 per share. These warrants are exercisable at any time before their expiration in March 2020.

The Series A-1 and B-1 convertible preferred stock has conversion, dividend, voting, liquidation and redemption rights identical to those of the Series A and B preferred convertible preferred stock.

The significant terms of the Series A-1 and B-1 convertible preferred stock, which are consistent with those of the Series A and B convertible preferred stock, are described below.

### Conversion

Each share of Series A and Series B redeemable convertible preferred stock (the preferred stock) is convertible into common stock: (i) at the option of the holder or (ii) the closing of an initial public offering of the Company's common stock at a price not less than $5.00 per share and having gross proceeds of not less than $50,000,000. The conversion ratio is currently on a one-for-one basis and is subject to adjustment as provided by the Company's Certificate of Incorporation. The holders of the Series A and Series B convertible preferred stock have broad-based antidilution protection provisions that could change the conversion ratio as a result of certain future financing transactions.

### Dividends

Upon liquidation, holders of the Series A and Series B convertible preferred stock have preferential rights over common stockholders to cumulative, noncompounding annual dividends of $0.06 per share and $0.09 per share, respectively, whether or not such dividends are paid or declared. Dividends are payable when and if declared by the Board of Directors. No dividends have been declared or paid by the Company to date.

### Voting

Preferred stockholders are entitled to the number of votes equal to the number of shares of common stock into which the preferred stock could be converted. In addition, the preferred stockholders have certain

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**5. Redeemable Convertible Preferred Stock – (continued)**

protective provisions whereby the Company is precluded from carrying out certain actions specified in the Certificate of Incorporation without the approval of a majority of the preferred stockholders.

**Liquidation**

Upon the occurrence of a liquidation event, the Series A and Series B preferred stockholders have preferential rights over common stockholders as to liquidation payments of their original issuance price of $1.00 per share and $1.50 per share, respectively, plus any unpaid dividends. Any additional distribution will be made to the holders of common stock and preferred stock on a pro rata as-converted basis.

In the event of a change of control whereby the Company: (i) is involved in any liquidation or winding up of the Company, whether voluntary or not; (ii) sells or disposes of substantially all of the assets of the Company; or (iii) effects any other transaction or series of related transactions in which more than 50% of the voting power of the Company is disposed of, then a “deemed liquidation” event occurs, whereby the preferred stockholders are entitled to receive their liquidation preferences described above.

**Redemption**

At any time on or after July 30, 2017, holders of at least a majority of the outstanding shares of the preferred stock as of that date may request the Company to redeem all (but not less than all) of the outstanding preferred stock, on a pari passu basis, at an amount equal to the liquidation value, including all unpaid dividends thereon. For the years ended December 31, 2011 and 2012 and for the six months ended June 30, 2012 and 2013 the Company has recorded accretion of the preferred stock dividends of approximately $2,346,000, $2,819,000, $1,409,000 and $1,429,000, respectively.

The redemption provisions described above require the Company to classify the preferred stock outside of permanent equity because the redemption of the preferred stock is outside of the control of the Company. The aggregate liquidation preference of the Series A and Series B convertible preferred stock is approximately $57,591,000 and $60,410,000 at December 31, 2011 and 2012, respectively and is $64,531,000 at June 30, 2013. The per-share cumulative dividends in arrears are approximately $0.36 to $0.48 for the Series A shares and $0.11 to $0.52 for the Series B shares as of December 31, 2012.

**6. Common Stock**

A summary of common stock reserved for future issuance, is as follows:

| | December 31, 2012 | June 30, 2013 |
|---|---|---|
| | | (unaudited) |
| Stock option plan | 9,576,633 | 9,562,788 |
| Redeemable convertible preferred stock | 32,956,403 | 34,706,934 |
| Redeemable convertible preferred stock warrants | 53,334 | 307,473 |
| Forward contract to purchase redeemable convertible preferred stock | — | 2,666,667 |
| Common stock warrants | 4,832,554 | 4,832,554 |
| Total | 47,418,924 | 52,076,416 |

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

## 7. Common and Redeemable Convertible Preferred Stock Warrants

At June 30, 2013 (unaudited) and December 31, 2012, the Company has the following outstanding common stock warrants:

| Warrants Outstanding | Exercise Price | Expiration Date |
|---|---|---|
| 3,866,666 | $ 0.01 | January 2015 |
| 725,000 | 0.10 | June 2016 |
| 218,870 | 0.10 | December 2016 |
| 22,018 | 1.00 | March 2017 |
| 4,832,554 | | |

At June 30, 2013, the Company has the following outstanding exercisable Series B-1 convertible preferred stock warrants (unaudited):

| Warrants Outstanding | Exercise Price | Expiration Date |
|---|---|---|
| 33,334 | $ 1.50 | December 2017 |
| 20,000 | 1.50 | May 2021 |
| 180,000 | 1.50 | March 2023 |
| 74,139 | 0.01 | March 2020 |
| 307,473 | | |

At December 31, 2012, the Company has the following outstanding exercisable Series B convertible preferred stock warrants:

| Warrants Outstanding | Exercise Price | Expiration Date |
|---|---|---|
| 33,334 | $ 1.50 | December 2017 |
| 20,000 | 1.50 | May 2021 |
| 53,334 | | |

## 8. Stock Option Plan

Under the Company's 2004 Stock Option Plan (the Plan), the Board of Directors may grant incentive and nonqualified stock options, restricted stock, and other forms of stock-based compensation to employees, officers, directors, and consultants of the Company. The Company generally grants stock options with exercise prices equal to or greater than the value of common stock on the date of grant as determined by the Board of Directors. Options vest by the terms of the option agreement and, typically, have a term of ten years from the date of grant. Options generally vest over four years of continuous service. Options that expire, or otherwise terminate, revert to and become available for issuance under the Plan.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**8. Stock Option Plan – (continued)**

The following table summarizes employee activity under the Plan (dollar amounts in thousands, except per share amounts):

| | Shares Available | Outstanding | | | |
|---|---|---|---|---|---|
| | | Shares | Weighted-Average Exercise Price Per Share | Weighted-Average Remaining Contractual Life (Years) | Aggregate Intrinsic Value |
| Balance at December 31, 2010 | 1,731,342 | 4,402,502 | $ 0.23 | 7.07 | |
| Additional shares authorized | 3,500,000 | — | — | | |
| Exercised | — | (57,211) | 0.19 | | $ 5 |
| Granted | (4,026,331) | 4,026,331 | 0.28 | | |
| Forfeited/canceled | 693,332 | (693,332) | 0.26 | | |
| Balance at December 31, 2011 | 1,898,343 | 7,678,290 | 0.25 | 8.01 | |
| Additional shares authorized | — | — | — | | |
| Exercised | — | — | — | | |
| Granted | (169,277) | 169,277 | 0.28 | | |
| Forfeited/canceled | 20,682 | (20,682) | 0.22 | | |
| Balance at December 31, 2012 | 1,749,748 | 7,826,885 | 0.26 | 7.10 | $ 245 |
| Exercisable, December 31, 2012 | | 4,655,486 | $ 0.24 | 5.85 | $ 230 |

A summary of exercise prices for options outstanding, is as follows:

| Exercise Price | Options Outstanding on December 31, 2012 |
|---|---|
| $0.10 | 751,854 |
| 0.13 | 326,263 |
| 0.17 | 286,917 |
| 0.24 | 732,784 |
| 0.28 | 4,190,045 |
| 0.31 | 1,539,022 |
| Total | 7,826,885 |

For purposes of measuring and recognizing compensation expense related to options granted to employees, certain assumptions were used to calculate fair value using the Black-Scholes-Merton option-pricing model as follows:

| | Year Ending December 31 | |
|---|---|---|
| | 2011 | 2012 |
| Estimated per share fair value of common stock | $ 0.28 | $ 0.28 |
| Risk-free interest rates | 1.3 - 2.6 % | 1.0 - 1.3 % |
| Expected life (in years) | 5.0 - 6.25 | 6.25 |
| Dividend yield | 0.0% | 0.0% |
| Expected volatility | 65% | 65% |
| Forfeiture rate | 7% | 4.5% |

The weighted-average grant date fair value of options granted during the years ended December 31, 2011 and 2012, was $0.17 and $0.17 per share, respectively. The total fair value of shares vested during the years ended December 31, 2011 and 2012, was $78,031 and $173,138, respectively.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**8. Stock Option Plan – (continued)**

The estimated per-share value of common stock was based on a valuation performed by the Company's board of directors with the assistance of an independent third-party valuation specialist. The risk-free interest rates are based on the implied yield currently available in U.S. Treasury securities at maturity with an equivalent term. The expected term of the options granted was calculated using the simplified method, which determines expected life based upon the average midpoints of vesting tranches. Expected volatility is estimated using comparable public company stock volatility. Forfeiture rates were derived from historical employee termination behavior. The total compensation expense recognized for options granted to employees was approximately $185,000 during the years ended December 31, 2011 and 2012. Of these amounts, approximately $94,000 and $68,000 was charged to research and development expenses for the years ended December 31, 2011 and 2012, respectively, and approximately $91,000 and $117,000 was charged to general and administrative expenses for the years ended December 31, 2011 and 2012, respectively. As of December 31, 2012, the total unrecognized compensation cost of approximately $434,000 will be recognized on a straight-line basis over the weighted-average remaining requisite service period of 2.8 years.

Stock-based compensation expense related to stock options granted to nonemployees is recognized as the underlying services are performed and the stock options are earned and vest. The Company recognized stock-based compensation expense of approximately $3,000 during the years ended December 31, 2011 and 2012, related to these options. Measurement of stock-based compensation to nonemployees is subject to periodic adjustment as the underlying equity instruments vest. No such options were granted in 2011 or 2012.

**9. Income Taxes**

The Company has a history of losses and therefore has no provision for income taxes. Deferred income taxes reflect the tax effect of net operating loss and tax credit carryforwards and the net temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amount used for income tax purposes, offset by a valuation allowance.

Significant components of deferred tax assets and liabilities are as follows (in thousands):

| | 2011 | 2012 |
|---|---|---|
| Deferred tax assets (liabilities): | | |
| Net operating loss carryforwards | $ 10,279 | $ 14,012 |
| Research and development credit carryforwards | 709 | 709 |
| Share-based payments | 97 | 119 |
| Deferred revenue | 3,915 | 777 |
| Other | 316 | 532 |
| Depreciation and amortization | (104) | (54) |
| Deferred tax assets, net | 15,212 | 16,095 |
| Less valuation allowance | (15,212) | (16,095) |
| Net deferred tax assets | $ — | $ — |

As of December 31, 2012, the Company had net operating loss carryforwards of approximately $41,212,000 that may be used to offset future taxable income. Unless previously utilized, the Company's net operating loss carryforwards will expire beginning in 2024 through 2032. The Company's ability to utilize its net operating loss carryforwards may be limited in the event of a change in ownership, as defined in Section 382 of the Internal Revenue Code of 1986, as amended. The effect of changes in ownership, if any, has not yet been determined. Future changes in the Company's ownership may further limit the use of such carryforward benefit.

As of December 31, 2012, the Company also had research and development credits of approximately $779,000 that may be used to offset future tax liabilities. Unless previously utilized, the Company's research

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**9. Income Taxes – (continued)**

and development credits will expire beginning in 2024 through 2032. The Company's ability to utilize these credits may also be subject to limitations based on changes in ownership.

The Company does not have uncertain tax positions. As such, no tax contingencies are recorded or are expected to be recorded in the next 12 months. The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. However, there are no material unrecognized tax benefits as of December 31, 2011 and 2012. Furthermore, the Company does not anticipate any significant changes in its unrecognized tax benefits over the next 12 months. The Company only operates in the State of Washington and therefore is subject to tax only for US federal income tax purposes. Tax years from 2009 to 2012, are currently open for audit by federal income tax authorities. Years prior to 2009 are subject to adjustment to the extent those net operating losses are utilized on a future year's tax return.

The Company has established a 100% valuation allowance due to the uncertainty of the Company's ability to generate sufficient taxable income to realize the deferred tax assets. The Company's valuation allowance increased approximately $2,700,000 and $883,000 in 2011 and 2012, respectively, primarily due to net operating losses incurred during these periods.

Deferred tax assets as of December 31, 2012, do not include research and development credits generated in 2012. The American Taxpayer Relief Act of 2012 was signed into law on January 3, 2013, which retroactively extended the research and development credits back to January 1, 2012. Accounting guidance on income taxes requires that the effect of tax legislation be taken into account in the year in which the law was enacted. Therefore, the 2012 research and development credits were not recorded as deferred tax assets as of December 31, 2012, but will be recorded in 2013. At December 31, 2012, these research and development credits were approximately $141,000.

**10. Employee Savings Plan**

The Company has a 401(k) savings plan (the 401(k) Plan) for those employees who meet minimum eligibility requirements. Eligible employees may contribute up to 90% of their annual compensation to the 401(k) Plan, subject to Internal Revenue Service limitations. The Company may also, at its sole discretion, make contributions to the 401(k) Plan. To date, the Company has not made any contributions to the 401(k) Plan.

**11. Commitments and Contingencies**

The Company had a five-year lease with a related party that expired in July 2012, for office space. The Company recognizes rent expense on a straight-line basis over the lease period. The Company has issued a standby letter of credit in the amount of $63,000 in connection with this lease. The standby letter of credit is secured by a certificate of deposit classified as cash and cash equivalents. The Company amended this lease in October 2011, to extend the base term for another six years, through June 2018.

Total rent expense was approximately $756,000 and $573,000 for the years ended December 31, 2011 and 2012, respectively. No amounts were outstanding to the lessor as of December 31, 2011 and 2012, respectively.

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**11. Commitments and Contingencies – (continued)**

Future minimum lease payments as of December 31, 2012, are as follows (in thousands):

| | |
|---|---|
| 2013 | $ 596 |
| 2014 | 681 |
| 2015 | 701 |
| 2016 | 722 |
| 2017 | 890 |
| Thereafter | 452 |
| Total minimum lease payments | $ 4,042 |

**12. Significant Agreements**

**International AIDS Vaccine Initiative (IAVI)**

In February 2008, Theraclone commenced an anti-HIV antibody discovery program with IAVI. As a part of this program, Theraclone is utilizing its I-STAR technology to discover antibodies that neutralize the HIV virus. Under the terms of a collaboration agreement, IAVI retains the rights to develop HIV vaccines based on the antibodies and Theraclone retains the rights to develop therapeutics based on the antibodies. Together, Theraclone and IAVI have discovered a large panel of broadly neutralizing and highly potent anti-HIV monoclonal antibodies that recognize novel epitopes present in a broad range of virus in circulation. Theraclone's intent is to identify a licensee for the therapeutic use of the monoclonal antibodies. To date, Theraclone has received from IAVI approximately $4.4 million in research payments. The term of the collaboration agreement continues, unless earlier terminated per the terms of the agreement, until all deliverables have been provided by Theraclone to IAVI. The collaboration agreement may be terminated by IAVI if it is not reasonably satisfied with Theraclone's performance or if there are significant changes in the scientific staffing at Theraclone that IAVI believes may jeopardize the discovery program. Additionally, either party may terminate the collaboration agreement upon the other party's uncured failure to comply with any material terms or conditions of the collaboration agreement.

**Zenyaku Kogyo (ZK)**

In March 2010, Theraclone entered into a strategic alliance with Zenyaku Kogyo, or Zenyaku, to develop anti-influenza antibody therapeutics. As part of the agreement with Theraclone, Zenyaku exercised its option for an exclusive license in the Japanese territory to Theraclone's influenza monoclonal antibody program. The collaboration utilizes Theraclone's I-STAR technology to discover broadly protective monoclonal antibodies for the treatment of pandemic influenza and severe seasonal influenza, including product candidate TCN-032. The agreement provides for royalty rates in the mid single digits to low double digits for potential future sales in Japan, clinical milestone payments of up to $18 million upon the achievement of certain development and regulatory milestones during the term of the agreement. Theraclone retains worldwide development and commercial rights outside of Japan. Zenyaku is eligible to receive a share of proceeds from Theraclone's licensing of rights in certain Asian countries outside of Japan. The term of the agreement will continue on a country-by-country and product-by-product basis, unless earlier terminated per the terms of the agreement, until the earlier of the expiration, invalidation or unenforceability of the patents or pending patent applications covered by the agreement or ten years from the commercial launch of the applicable product. If Zenyaku Kogyo determines not to proceed with the products licensed under the agreement, then Zenyaku Kogyo may terminate the agreement upon thirty days prior written notice to Theraclone. Additionally, either party may terminate the agreement under certain other circumstances, including an uncured material breach of any material provision of the agreement and bankruptcy. Theraclone completed a substantial portion of the development activities in connection with the agreement during 2012, by completing the TCN-032 Phase 1 clinical trial and initiating and completing the majority of the subject enrollment portion of the Phase 2a trial. To date, Theraclone has received from Zenyaku an aggregate of approximately $21.7 million in fees, research

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**12. Significant Agreements – (continued)**

funding payments and milestone payments in support of the influenza discovery and development program through the TCN-032 Phase 1 clinical study, and three equity investments totaling $2 million from Zenyaku.

The Company has identified the following deliverables under the collaboration agreement with ZK: i) performance under the option agreement, ii) the license to the Company's technology, and iii) the obligation to provide research and development services during the term of the agreement. The license was not considered to have stand alone value due to the unique propriety research that the Company will provide to ZK over the term of the arrangement. As a consequence, the option fee, the license fee, the stock premium as well as amounts for research and development services will be aggregated and recognized as revenue based on proportional performance method over the expected performance period of the research activities under the agreement. At any point in time, amounts recognized as revenue are limited to amounts due and payable by ZK under the arrangement.

The Company has evaluated the milestone payment related to the ZK Agreement amounting to $3 million and concluded it represents consideration for substantive, at risk activities and therefore recognized it as revenue upon receipt in 2012. The milestone related to the development milestone for the first patient treated in a Phase II clinical trial. No development milestones were achieved for the period ending December 31, 2011. Revenues from ZK were $6.1 million and $11.4 million in 2011 and 2012, respectively.

**Pfizer**

In January 2011, Theraclone entered into a multi-year, exclusive discovery research partnership with Pfizer. The collaboration is based on use of Theraclone's I-STAR technology to discover broadly protective monoclonal antibodies against up to four undisclosed targets in the areas of infectious disease and cancer. Pfizer is responsible for pre-clinical and clinical development of the antibodies under this collaboration. Pfizer will receive an exclusive worldwide license to any therapeutic antibodies discovered under the collaboration. Theraclone is eligible to receive royalties at rates in the mid to high single digits on net sales of any developed products and research funding and milestone payments upon the achievement of discovery, development, regulatory and commercialization milestones. These milestone payments are contingent upon the successful achievement of specified development activities such as clinical trial initiation or regulatory activities based upon Pfizer's performance. As of June 30, 2013, Theraclone had received approximately $11.5 million in fees and milestone payments from Pfizer. The term of the agreement will continue on a country-by-country and product-by-product basis, unless earlier terminated per the terms of the agreement, until the earlier of the expiration, invalidation, revocation or unenforceability of the patents or pending patent applications covered by the agreement or ten years from the first commercial sale of the applicable product. Pfizer may terminate the agreement on a target-by-target or product-by-product and country-by-country basis for any reason or for no reason upon sixty days prior written notice to Theraclone or, upon written notice, in the event of Theraclone's bankruptcy. Additionally, either party may terminate the agreement upon the other party's uncured material breach of such party's obligations under the agreement. Theraclone has completed work on the first infectious disease program, has nearly completed work on the initial cancer program and, in March of 2013, Pfizer terminated the second infectious disease program. Additional funding under this agreement depends on whether Pfizer decides to initiate another research program.

The Company has identified the following performance obligations under the license agreement with Pfizer: i) the license to the Company's technology and ii) the obligation to provide research and development services during the term of the agreement. The Company determined that the license to the Company's technology does not have standalone value to Pfizer due to the unique, proprietary research that the Company will provide to Pfizer over the research period. The Company is entitled to receive milestone payments upon the achievement of certain clinical, regulatory and commercial based events subsequent to the research and development service periods of the respective agreements. These milestone payments are contingent upon the successful achievement of specified development activities such as clinical trial initiation or regulatory

**Theraclone Sciences, Inc.**

**Notes to Financial Statements**

**12. Significant Agreements – (continued)**

activities based upon Pfizer's performance. The contingent milestone payments and royalties related to the Pfizer agreement will be recognized as revenue when earned and payment has been received.

Amounts received by the Company from Pfizer for the upfront license fee, research and development funding, and non-substantive milestones are recognized as collaboration revenue based on proportional performance, as services are performed over the expected performance period of the agreement.

**13. Subsequent Events**

For the year ended December 31, 2012, management evaluated subsequent events through September 6, 2013, the date these financial statements were available for issue.

**14. Merger**

On August 1, 2013, the Company entered into an Agreement and Plan of Merger with PharmAthene, Inc., and Taurus Merger Sub, Inc., a wholly owned subsidiary of PharmAthene ("Merger Sub"), which provides for the merger of Merger Sub with and into the Company, with the Company surviving the merger and becoming a wholly owned subsidiary of PharmAthene. Upon the terms and subject to the conditions set forth in the merger agreement, PharmAthene will issue shares of its common stock to the Company's stockholders based on an exchange ratio to be determined prior to closing of the transaction. Under the exchange ratio formula in the Merger Agreement, the Company's former stockholders are expected to own approximately 50% of the combined company, and PharmAthene's stockholders are expected to own approximately 50% of the combined company, each on a fully diluted basis (without regard to PharmAthene options and warrants having an exercise price greater than $2.50 per share). The transaction has been approved by the Board of Directors of both companies and is subject to customary closing conditions, including the approval of the stockholders of PharmAthene. The merger is expected to close in the fourth quarter of 2013.

**ANNEX A**

# AGREEMENT AND PLAN OF MERGER

among

PHARMATHENE, INC.,

TAURUS MERGER SUB, INC.,

THERACLONE SCIENCES, INC.,

and

STEVEN GILLIS, PH.D., AS SECURITYHOLDERS' REPRESENTATIVE

Dated as of July 31, 2013

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**EXHIBITS AND ANNEXES**


Exhibit 1 — Theraclone Sciences, Inc. Voting and Lock-Up Agreement
Exhibit 2 — PharmAthene, Inc. Voting and Lock-Up Agreement
Exhibit 3 — Form of Certificate of Incorporation of Merger Sub
Exhibit 4 — Form of Bylaws of Merger Sub
Exhibit 5 — Form of PharmAthene, Inc. Charter Amendment
Exhibit 6 — Form of Board Composition Agreement
Exhibit 7 — Post-Closing Lock-Up Agreement
Annex A — Approving Theraclone Sciences, Inc. Stockholders
Annex B — Approving PharmAthene, Inc. Stockholders

**THIS AGREEMENT AND PLAN OF MERGER**, dated as of July 31, 2013 (this "Agreement"), among PharmAthene, Inc., a Delaware corporation ("PharmAthene"), Taurus Merger Sub, Inc., a Delaware corporation and a direct, wholly owned Subsidiary of PharmAthene ("Merger Sub"), Theraclone Sciences, Inc., a Delaware corporation ("Theraclone"), and Steven Gillis, Ph.D., solely in its capacity as the representative of the Theraclone Stockholders (the "Securityholders' Representative").

WHEREAS, pursuant to this Agreement, in accordance with the applicable provisions of the Delaware General Corporation Law (the "DGCL"), Merger Sub will be merged with and into Theraclone, with Theraclone as the surviving corporation (the "Merger"), and as a result of the Merger, Theraclone will become a direct, wholly owned subsidiary of PharmAthene;

WHEREAS, concurrently with the execution and delivery of this Agreement and as a condition to PharmAthene's willingness to enter into this Agreement, the Theraclone Stockholders listed on Annex A (the "Approving Theraclone Stockholders") have entered into a Voting and Lock-Up Agreement, dated as of the date of this Agreement, a copy of which is attached as Exhibit 1 hereto (the "Theraclone Voting Agreement"), pursuant to which such Approving Theraclone Stockholders have, among other things, agreed to vote all of the stock of Theraclone owned by such Approving Theraclone Stockholder in favor of the adoption of the Theraclone Stockholder Approval Matters;

WHEREAS, concurrently with the execution and delivery of this Agreement and as a condition to PharmAthene's willingness to enter into this Agreement, all of the Approving Theraclone Stockholders have entered into a Post-Closing Lock-Up Agreement, dated as of the date of this Agreement, a copy of which is attached as Exhibit 7 hereto (the "Post-Closing Lock-Up Agreement"), pursuant to which such Approving Theraclone Stockholders have, among other things, agreed not to transfer any portion of the Merger Consideration to any third party for the periods set forth therein;

WHEREAS, concurrently with the execution and delivery of this Agreement and as a condition to Theraclone's willingness to enter into this Agreement, those certain stockholders of PharmAthene listed on Annex B (the "Approving PharmAthene Stockholders") have entered into a Voting and Lock-Up Agreement, dated as of the date of this Agreement, a copy of which is attached as Exhibit 2 hereto (the "PharmAthene Voting Agreement"), pursuant to which such Approving PharmAthene Stockholders have, among other things, agreed to vote all of the stock of PharmAthene owned by such Approving PharmAthene Stockholders in favor of the adoption of the PharmAthene Stockholder Approval Matters;

WHEREAS, the board of directors of Theraclone (the "Theraclone Board of Directors") has unanimously (i) determined that it is in the best interests of Theraclone and its stockholders, and declared it advisable, to enter into this Agreement, (ii) approved this Agreement and authorized the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby, including the Merger and (iii) resolved to recommend its adoption by the stockholders of Theraclone;

WHEREAS, the board of directors of PharmAthene (the "PharmAthene Board of Directors") has unanimously (i) determined that it is in the best interests of PharmAthene and its stockholders, and declared it advisable, to enter into this Agreement, (ii) approved this Agreement and authorized the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby, including the Merger and (iii) resolved to recommend that the stockholders of PharmAthene approve the PharmAthene Stockholder Approval Matters;

WHEREAS, the board of directors of Merger Sub has unanimously (i) determined that it is in the best interests of Merger Sub and PharmAthene, as its sole stockholder, and declared it advisable, to enter into this Agreement, (ii) approved this Agreement and authorized the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby, including the Merger and (iii) resolved to recommend that the sole stockholder of Merger Sub approve the Merger and adopt this Agreement; and

WHEREAS, PharmAthene, Merger Sub and Theraclone desire to make certain representations, warranties and agreements specified in this Agreement in connection with this Agreement.

NOW, THEREFORE, in consideration of the foregoing and the representations, warranties and agreements contained in this Agreement, and intending to be legally bound hereby, PharmAthene, Merger Sub and Theraclone agree as follows:

## ARTICLE I

## THE MERGER

Section 1.1 The Merger. At the Effective Time (as defined below), upon the terms and subject to the conditions set forth in this Agreement, and in accordance with the applicable provisions of the DGCL, Merger Sub will be merged with and into Theraclone, whereupon the separate corporate existence of Merger Sub will cease, and Theraclone will continue as the surviving corporation of the Merger and as a direct, wholly owned subsidiary of PharmAthene. Theraclone in its capacity as the surviving corporation of the Merger is sometimes referred to herein as the "Surviving Subsidiary .."

Section 1.2 Closing. The closing of the Merger (the "Closing") will take place remotely via the exchange of documents and signature pages on a date and time to be specified by the parties (the "Closing Date"), which shall be the second Business Day after the satisfaction or waiver (to the extent waiver is permitted by applicable Law) of the conditions set forth in ARTICLE VII (other than those conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver (if legally permissible) of those conditions) or at such other place, date and time as Theraclone and PharmAthene may agree in writing.

Section 1.3 Effective Time. On the Closing Date, immediately after the Closing, the parties shall cause the Merger to be consummated by executing and filing a certificate of merger (the "Certificate of Merger") with the Secretary of State of the State of Delaware and making all other filings or recordings required under the DGCL in connection with the Merger. The Merger shall become effective at such time as the Certificate of Merger is duly filed with the Secretary of State of the State of Delaware, or at such later date as the parties shall agree and as shall be set forth in the Certificate of Merger (the time the Merger becomes effective is referred to herein as the "Effective Time").

Section 1.4 Effects of the Merger. The effects of the Merger will be as provided in this Agreement and in the applicable provisions of the DGCL. Without limiting the generality of the foregoing, at the Effective Time, all the assets and property of every description, and every interest in the assets and property, wherever located, and the rights, privileges, immunities, powers, franchises and authority of Merger Sub shall vest in the Surviving Subsidiary, and all obligations of Merger Sub shall become the obligations of the Surviving Subsidiary, all as provided in the DGCL and the other applicable Laws of the State of Delaware. At and after the Effective Time, the officers and directors of the Surviving Subsidiary will be authorized to execute and deliver, in the name and on behalf of Merger Sub, any deeds, bills of sale, assignments or assurances and to take and do, in the name and on behalf of Merger Sub, any other actions and things to vest, perfect or confirm of record or otherwise in the Surviving Subsidiary any and all right, title and interest in, to and under any of the properties, assets or rights of Merger Sub.

Section 1.5 Certificate of Incorporation and Bylaws of the Surviving Subsidiary.

(a) At the Effective Time, the Restated Certificate of Incorporation of Theraclone shall be so amended so as to read in its entirety as set forth Exhibit 3 annexed hereto, and, as so amended, shall be the certificate of incorporation of the Surviving Subsidiary until thereafter amended in accordance with the provisions thereof and this Agreement and applicable Law.

(b) At the Effective Time and without any further action on the part of Theraclone or Merger Sub, the bylaws of the Surviving Subsidiary shall be amended so as to read in its entirety as is set forth on Exhibit 4 annexed hereto, and, as so amended, shall be the bylaws of the Surviving Subsidiary until thereafter amended in accordance with the provisions thereof and this Agreement and applicable Law.

Section 1.6 Directors. The directors of the Merger Sub immediately prior to the Effective Time shall be the initial directors of the Surviving Subsidiary and shall hold office until their respective successors are duly elected and qualified, or until their earlier death, resignation or removal.

Section 1.7 Officers. The officers of Theraclone immediately prior to the Effective Time shall be the initial officers of the Surviving Subsidiary and shall hold office until their respective successors are duly elected and qualified, or until their earlier death, resignation or removal.

Section 1.8 Tax Consequences. It is intended by the parties hereto that the Merger constitute a reorganization within the meaning of section 368(a) of the Internal Revenue Code of 1986, as amended (the "Code"). The parties hereto adopt this Agreement as a plan of reorganization within the meaning of Treasury Regulation sections 1.368-1(c) and 1.368-2(g).

## ARTICLE II

## CONVERSION OF SHARES; EXCHANGE OF CERTIFICATES

Section 2.1 Effect of Merger on Capital Stock of Theraclone and Merger Sub. At the Effective Time, by virtue of the Merger and without any action on the part of Theraclone, Merger Sub or the holders of any securities of Theraclone or Merger Sub:

(a) Conversion of Theraclone Common Shares. Subject to Section 2.1(d), Section 2.1(e), Section 2.1(f), Section 2.1(g), Section 2.1(h), Section 2.2, and Article V, each common share, par value $0.001, of Theraclone (the "Theraclone Common Shares," and each, a "Theraclone Common Share") issued and outstanding immediately prior to the Effective Time, shall, at the Effective Time, be converted into and shall thereafter represent the right to receive (the "Merger Consideration") that number of shares of common stock, $.0001 par value per share, of PharmAthene (the "PharmAthene Stock") equal to the quotient obtained from dividing the Fully Diluted Equity of PharmAthene immediately prior to the Effective Time by the Fully Diluted Equity of Theraclone immediately prior to the Effective Time (the "Exchange Ratio"), in each case upon surrender of the certificate(s) representing such Theraclone Common Shares as provided in this ARTICLE II, less a Pro Rata Share of the Escrow Shares, and all Theraclone Common Shares that have been converted into the right to receive the Merger Consideration as provided in this Section 2.1 shall be automatically cancelled and shall cease to exist.

(b) Cancellation of Treasury Stock and PharmAthene and Merger Sub-Owned Shares. Each Theraclone Common Share that is held by PharmAthene or any Subsidiary of PharmAthene immediately prior to the Effective Time or held by Theraclone (as treasury stock or otherwise) immediately prior to the Effective Time (the "Cancelled Shares") shall, by virtue of the Merger and without any action on the part of the holder thereof, be cancelled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor or in respect thereof.

(c) Conversion of Merger Sub Common Shares. At the Effective Time, by virtue of the Merger and without any action on the part of the holder thereof, each share of common stock, par value $0.0001, of Merger Sub issued and outstanding immediately prior to the Effective Time shall be converted into and become one validly issued, fully paid and nonassessable share of common stock, par value $0.0001, of the Surviving Subsidiary, with the same rights, powers and privileges as the shares so converted and those shares of common stock of the Surviving Subsidiary shall constitute the only outstanding shares of capital stock of the Surviving Subsidiary. From and after the Effective Time, all certificates representing common shares of Merger Sub will for all purposes represent the number of common shares of the Surviving Subsidiary into which they were converted in accordance with the immediately preceding sentence.

(d) Escrow Shares. At the Effective Time, PharmAthene shall withhold from the Merger Consideration the Escrow Shares, which shall be allocated among the Theraclone Stockholders in accordance with their Pro Rata Share. Any such Escrow Shares will be delivered by PharmAthene to the Escrow Agent, to be held pursuant to the terms of the Escrow Agreement in accordance with Section 5.5(a). The Escrow Shares shall be deposited, voted, transferred, and released in accordance with Article V hereof and the Escrow Agreement.

(e) Adjustments. If at any time between the date of this Agreement and the Effective Time, any change in the outstanding shares of capital stock of Theraclone or PharmAthene shall occur as a result of any reclassification, recapitalization, share split (including a reverse share split) or combination, exchange or readjustment of shares, or any share dividend or share distribution with a record date during such

period (but not as a result of the exercise of any outstanding Theraclone Stock Option, Theraclone Warrant, PharmAthene capital stock-based award or PharmAthene capital stock options), the Exchange Ratio will be equitably adjusted to reflect such change.

(f) Dissenting Shares.

(i) Theraclone Common Shares that are issued and outstanding immediately prior to the Effective Time and which are held by holders who have not voted in favor of or consented to the Merger and who are entitled to demand and have properly demanded their rights to be paid the fair value of such Theraclone Common Shares in accordance with section 262 of the DGCL (the "Dissenting Shares") shall not be canceled and converted into the right to receive the Merger Consideration, and the holders thereof shall be entitled to only such rights as are granted by section 262 of the DGCL; provided, however, that if any such stockholder of Theraclone shall fail to perfect or shall effectively waive, withdraw or lose such stockholder's rights under section 262 of the DGCL, such stockholder's Dissenting Shares in respect of which the stockholder would otherwise be entitled to receive fair value under section 262 of the DGCL shall thereupon be deemed to have been canceled, at the Effective Time, and the holder thereof shall be entitled to receive the Merger Consideration (payable without any interest thereon) as compensation for such cancellation.

(ii) Theraclone shall give PharmAthene (A) prompt notice of any notice received by Theraclone of intent to demand the fair value of any Theraclone Common Shares, withdrawals of such notices and any other instruments or notices served pursuant to section 262 of the DGCL and (B) the opportunity to participate in all negotiations and proceedings with respect to the exercise of appraisal rights under section 262 of the DGCL. Theraclone shall not, except with the prior written consent of PharmAthene or as otherwise required by an order of a court of competent jurisdiction, (x) make any payment or other commitment with respect to any such exercise of appraisal rights, (y) offer to settle or settle any such rights or (z) waive any failure to timely deliver a written demand for appraisal or timely take any other action to perfect appraisal rights in accordance with the DGCL.

(g) No Fractional Shares. No certificates or scrip representing fractional shares of PharmAthene Common Stock shall be issued upon the surrender for exchange of Certificates, no dividends or other distributions of PharmAthene shall relate to such fractional share interests and such fractional share interests shall not entitle the owner thereof to vote or to any rights of a stockholder of PharmAthene. PharmAthene shall pay to each holder of a Certificate an aggregate amount in cash (rounded to the nearest whole cent) equal to the product obtained by multiplying (A) the fractional share interest to which such holder (after aggregating all Theraclone Common Shares formerly represented by all Certificates surrendered by such holder) would otherwise be entitled by (B) the per share closing price of PharmAthene Common Stock on the last trading day immediately prior to the Closing Date on NYSE MKT LLC (as reported in Bloomberg Financial Markets or, if not reported thereby, such other authoritative source as the parties shall agree in writing).

(h) Stock Options and Warrants.

(i) At the Effective Time, each outstanding Theraclone Stock Option, whether vested or unvested, and the Theraclone Stock Incentive Plan shall be assumed by PharmAthene and Theraclone shall take all corporate action necessary to ensure that each Theraclone Stock Option shall become an option to acquire, on the same terms and conditions as were applicable under the Theraclone Stock Option immediately prior to the Effective Time, a number of shares of PharmAthene Common Stock equal to the number of Theraclone Common Shares subject to such Theraclone Stock Option immediately prior to the Effective Time multiplied by the Exchange Ratio, with the result rounded down to the nearest whole number. The exercise price per share of PharmAthene Common Stock for each assumed Theraclone Stock Option will equal the quotient obtained from dividing (x) the exercise price per share for the Theraclone Common Shares purchasable pursuant to the assumed Theraclone Stock Option immediately prior to the Effective Time by (y) the Exchange Ratio, with the result rounded up to the nearest whole cent. Such Theraclone Stock Options shall continue in effect on the same terms and conditions (including, if applicable, the vesting arrangements and other terms and conditions set forth in the Theraclone Equity Incentive Plan and the applicable stock option

agreement) to which they are subject (subject to the adjustments required by this Section 2.1(h) after giving effect to the Merger), except that all references to Theraclone therein shall be deemed to mean PharmAthene. To the extent permitted by applicable Law, all assumed Theraclone Stock Options that prior to the Effective Time were treated as incentive or non-qualified stock options under the Code shall from and after the Effective Time continue to be treated as incentive or non-qualified stock options, respectively, under the Code.

(ii) As soon as practicable after the Effective Time, PharmAthene shall deliver to the holders of the Theraclone Stock Options an appropriate notice evidencing the foregoing assumption setting forth the specific adjustments made to the assumed Theraclone Stock Options, as provided in this Section 2.1(h).

(iii) PharmAthene shall take all corporate action necessary to reserve for issuance a sufficient number of shares of PharmAthene Common Stock for delivery upon exercise of the Theraclone Stock Options assumed in accordance with this Section 2.1(h). As soon as practicable (but in no event more than ten (10) business days after the Effective Time), PharmAthene shall file a registration statement on Form S-8 (or any successor form) with respect to the shares of PharmAthene Common Stock subject to such assumed Theraclone Stock Options, and thereafter shall use commercially reasonable efforts to maintain the effectiveness of that registration statement for as long as any such assumed Theraclone Stock Options remain outstanding.

(iv) Theraclone shall take all requisite action so that, as of the Effective Time, each Theraclone Warrant is converted (as converted, a "Converted Warrant"), by virtue of the Merger and without any action on the part of the holder of that Theraclone Warrant, into a warrant exercisable for that number of shares of PharmAthene Common Stock equal to the product of (i) the aggregate number of Theraclone Common Shares or Theraclone Preferred Stock, as the case may be, for which such Theraclone Warrant was exercisable and (ii) the Exchange Ratio, rounded down to the nearest whole share. The exercise price per share of such Converted Warrant shall be equal to the quotient obtained from dividing (x) the exercise price per share of such Theraclone Warrant immediately prior to the Effective Time by (y) the Exchange Ratio, with the result rounded up to the nearest whole cent. All Converted Warrants shall continue to have, and be subject to, the same terms and conditions set forth in the respective Theraclone Warrants except as otherwise provided for herein.

Section 2.2 Exchange of Certificates.

(a) Exchange Agent. At the Effective Time, PharmAthene shall deposit with Continental Stock Transfer and Trust Company (the "Exchange Agent"), for the benefit of the holders of certificates formerly representing Theraclone Common Shares ("Certificates"), certificates representing shares of PharmAthene Common Stock in the aggregate amount equal to the number of shares into which Theraclone Common Shares have been converted, less the Escrow Shares. In addition, PharmAthene shall deposit with the Exchange Agent, as necessary from time to time after the Effective Time, any dividends or other distributions payable pursuant to Section 2.2(c). All shares of PharmAthene Common Stock, dividends and distributions deposited with the Exchange Agent pursuant to this Section 2.2(a) shall hereinafter be referred to as the "Exchange Fund." The Exchange Fund shall not be used for any other purpose.

(b) Exchange Procedures. As soon as reasonably practicable after the Effective Time (and in any event within five Business Days), PharmAthene shall cause the Exchange Agent to mail to each holder of record of a Certificate whose Theraclone Common Shares were converted into the right to receive the Merger Consideration, any dividends or other distributions payable pursuant to Section 2.2(c) and cash in lieu of any fractional shares payable pursuant to Section 2.1(g), (i) a form of letter of transmittal (which shall specify that delivery shall be effected, and risk of loss and title to the Certificates shall pass, only upon proper delivery of the Certificates to the Exchange Agent and which shall be in customary form and contain customary provisions) and (ii) instructions for use in effecting the surrender of the Certificates in exchange for the Merger Consideration, any dividends or other distributions payable pursuant to Section 2.2(c) and cash in lieu of any fractional shares payable pursuant to Section 2.1(g). Each holder of record of one or more Certificates shall, upon surrender to the Exchange Agent of such Certificate or

Certificates, together with such letter of transmittal, duly executed, and such other documents as may reasonably be required by the Exchange Agent, be entitled to receive promptly in exchange therefor (i) a certificate or certificates representing that number of whole shares of PharmAthene Common Stock (after taking into account all Certificates surrendered by such holder) to which such holder is entitled pursuant to Section 2.1(a), (ii) any dividends or distributions payable pursuant to Section 2.2(c) and (iii) cash in lieu of any fractional shares payable pursuant to Section 2.1(g), and the Certificates so surrendered shall forthwith be canceled. In the event of a transfer of ownership of Theraclone Common Shares that are not registered in the transfer records of Theraclone, payment of the Merger Consideration in accordance with Section 2.1(a) may be made to a person other than the person in whose name the Certificate so surrendered is registered if such Certificate shall be properly endorsed or otherwise be in proper form for transfer and the person requesting such payment shall pay any transfer or other Taxes required by reason of the transfer or establish to the reasonable satisfaction of PharmAthene that such Taxes have been paid or are not applicable. Until surrendered as contemplated by this Section 2.2(b), each Certificate shall be deemed at any time after the Effective Time to represent only the right to receive upon such surrender the Merger Consideration, any dividends or other distributions payable pursuant to Section 2.2(c) and cash in lieu of any fractional shares payable pursuant to Section 2.1(g). No interest shall be paid or will accrue on any payment to holders of Certificates pursuant to the provisions of this ARTICLE II.

(c) Distributions with Respect to Unexchanged Shares. No dividends or other distributions with respect to PharmAthene Common Stock with a record date on or after the Effective Time shall be paid to the holder of any unsurrendered Certificate with respect to the shares of PharmAthene Common Stock that the holder thereof has the right to receive upon the surrender thereof, and no cash payment in lieu of fractional shares of PharmAthene Common Stock shall be paid to any such holder pursuant to Section 2.1(g), in each case until the holder of such Certificate shall have surrendered such Certificate in accordance with this ARTICLE II. Following the surrender of any Certificate, there shall be paid to the record holder of the certificate representing whole shares of PharmAthene Common Stock issued in exchange therefor, without interest, (i) at the time of such surrender, the amount of dividends or other distributions with a record date on or after the Effective Time theretofore paid with respect to such whole shares of PharmAthene Common Stock and the amount of any cash payable in lieu of a fractional share of PharmAthene Common Stock to which such holder is entitled pursuant to Section 2.1(g) and (ii) at the appropriate payment date, the amount of dividends or other distributions with a record date on or after the Effective Time but prior to such surrender and a payment date subsequent to such surrender payable with respect to such whole shares of PharmAthene Common Stock.

(d) No Further Ownership Rights in Theraclone Common Shares. The Merger Consideration, any dividends or other distributions as are payable pursuant to Section 2.2(c) and such cash in lieu of any fractional shares as is payable pursuant to Section 2.1(g) upon the surrender of Certificates in accordance with the terms of this ARTICLE II shall be deemed to have been in full satisfaction of all rights pertaining to the Theraclone Common Shares formerly represented by such Certificates, subject, however, to the Surviving Subsidiary's obligation to pay any dividends or make any other distributions with a record date prior to the Effective Time which may have been declared or made by Theraclone on the Theraclone Common Shares in accordance with the terms of this Agreement prior to the Effective Time. At the close of business on the day on which the Effective Time occurs, the share transfer books of Theraclone shall be closed, and there shall be no further registration of transfers on the share transfer books of the Surviving Subsidiary of the Theraclone Common Shares that were outstanding immediately prior to the Effective Time. If, after the Effective Time, any Certificate is presented to the Surviving Subsidiary for transfer, it shall be canceled and exchanged as provided in this ARTICLE II.

(e) Termination of the Exchange Fund. Any portion of the Exchange Fund that remains undistributed to the holders of the Certificates for one year after the Effective Time shall be delivered to PharmAthene, upon demand, and any holders of the Certificates who have not theretofore complied with this ARTICLE II shall thereafter look only to PharmAthene for, and PharmAthene shall remain liable for, payment of their claim for the Merger Consideration, any dividends or other distributions payable pursuant to Section 2.2(c) and cash in lieu of any fractional shares payable pursuant to Section 2.1(g) in accordance with this ARTICLE II.

(f) No Liability. None of PharmAthene, Merger Sub, Theraclone, the Surviving Subsidiary or the Exchange Agent shall be liable to any person in respect of any shares of PharmAthene Common Stock, cash, dividends or other distributions from the Exchange Fund properly delivered to a public official pursuant to any applicable abandoned property, escheat or similar Law.

(g) Investment of Exchange Fund. The Exchange Agent shall invest the cash included in the Exchange Fund as directed by PharmAthene; provided, however, that such investments shall be in obligations of or guaranteed by the United States of America, in commercial paper obligations rated A-1 or P-1 or better by Moody's Investors Service, Inc. or Standard & Poor's Corporation, respectively, or in certificates of deposit, bank repurchase agreements or banker's acceptances of commercial banks with capital exceeding $10 billion (based on the most recent financial statements of such bank which are then publicly available). Any interest and other income resulting from such investments shall be paid to and be income of PharmAthene. If for any reason (including losses) the cash in the Exchange Fund shall be insufficient to fully satisfy all of the payment obligations to be made in cash by the Exchange Agent hereunder, PharmAthene shall promptly deposit cash into the Exchange Fund in an amount which is equal to the deficiency in the amount of cash required to fully satisfy such cash payment obligations.

(h) Lost Certificates. If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming such Certificate to be lost, stolen or destroyed (and without the requirement to post or deliver any bond), the Exchange Agent shall deliver in exchange for such lost, stolen or destroyed Certificate the Merger Consideration, any dividends or other distributions payable pursuant to Section 2.2(c) and cash in lieu of any fractional shares payable pursuant to Section 2.1(g), in each case pursuant to this ARTICLE II.

(i) Withholding Rights. PharmAthene, the Surviving Subsidiary or the Exchange Agent shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to this Agreement such amounts as PharmAthene, the Surviving Subsidiary or the Exchange Agent are required to deduct and withhold with respect to the making of such payment under the Code or any provision of state, local or foreign Tax Law. To the extent that amounts are so withheld by PharmAthene, the Surviving Subsidiary or the Exchange Agent, such withheld amounts (i) shall be treated for all purposes of this Agreement as having been paid to the holder of Certificates in respect of which such deduction and withholding was made by PharmAthene, the Surviving Subsidiary or the Exchange Agent and (ii) shall be remitted by PharmAthene, the Surviving Subsidiary or the Exchange Agent, as the case may be, to the applicable Governmental Entity.

## ARTICLE III

## REPRESENTATIONS AND WARRANTIES OF THERACLONE

Except as disclosed in the corresponding sections or subsections of the disclosure schedules delivered to PharmAthene by Theraclone in connection with this Agreement (the "Theraclone Disclosure Schedule") (it being agreed that disclosure of any item in any sections or subsections of the Theraclone Disclosure Schedule shall also be deemed disclosure with respect to any other sections or subsections of this Agreement to which the relevance of such item is reasonably apparent on the face of such disclosure), Theraclone represents and warrants to PharmAthene and Merger Sub as follows:

Section 3.1 Qualification, Organization, Subsidiaries, etc.

(a) Theraclone is a legal entity validly existing and in good standing under the Laws of Delaware and has all requisite corporate or similar power and authority to own, lease and operate its properties and assets and to carry on its business as presently conducted.

(b) Theraclone is qualified to do business and is in good standing as a foreign corporation in each jurisdiction where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where the failure to be so qualified or in good standing, or to have such power or authority has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

(c) Theraclone has made available to PharmAthene prior to the date of this Agreement a true and complete copy of Theraclone's Certificate of Incorporation and Bylaws, each as amended through the date of this Agreement (such certificate of incorporation, the "Theraclone Certificate of Incorporation" and such bylaws, the "Theraclone Bylaws"). The Theraclone Certificate of Incorporation and Theraclone Bylaws are in full force and effect. Theraclone is not in violation of the Theraclone Certificate of Incorporation or the Theraclone Bylaws, other than such violations as have not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

Section 3.2 Capital Stock.

(a) The authorized capital stock of Theraclone consists of 60,000,000 Theraclone Common Shares with $0.001 par value and 37,765,145 preferred shares ("Theraclone Preferred Shares") with $0.001 par value. The capitalization of Theraclone is as set forth in Section 3.2(a) of the Theraclone Disclosure Schedule. All outstanding Theraclone Common Shares and Preferred Shares, and all Theraclone Common Shares and Preferred Shares reserved for issuance, when issued in accordance with the respective terms thereof, are or will be duly authorized, validly issued, fully paid and nonassessable and not issued in violation of any preemptive rights, purchase option, call or right of first refusal rights. Section 3.2(a) of the Theraclone Disclosure Schedule sets forth the exercise price of each Theraclone Stock Option and indicates whether such Theraclone Stock Option qualifies as an "incentive stock option" within the meaning of section 422 of the Code. As a result of the Conversion, no Theraclone Preferred Shares will be issued and outstanding as of the Closing.

(b) Except as set forth in subsection (a) above and as set forth in Section 3.2(a) of the Theraclone Disclosure Schedule, as of the date of this Agreement, (i) Theraclone does not have any shares of its capital stock issued or outstanding, and (ii) there are no outstanding subscriptions, options, stock appreciation rights, warrants, calls, convertible securities, restricted stock units, performance units, deferred stock units or other similar rights, agreements or commitments relating to the issuance of capital stock or voting securities to which Theraclone is a party obligating Theraclone to (A) issue, transfer or sell any shares of capital stock or other equity interests of Theraclone or securities convertible into or exchangeable for such shares or equity interests, (B) grant, extend or enter into any such subscription, option, stock appreciation right, warrant, call, convertible securities, restricted stock units, performance units, deferred stock units or other similar right, agreement or arrangement, or (C) redeem or otherwise acquire, or vote or dispose of, any such shares of capital stock or other equity interests.

(c) Except as set forth in subsection (a) above, Theraclone does not have any outstanding bonds, debentures, notes or other obligations, the holders of which have the right to vote (or which are convertible into or exercisable for securities having the right to vote) with the stockholders of Theraclone on any matter.

(d) There are no voting trusts or other agreements or understandings to which Theraclone is a party with respect to the voting of the capital stock or other equity interests of Theraclone.

(e) No consent or approval is required from the holder of any Theraclone Stock Option (other than in respect of the right of such shares to vote generally with the Theraclone Common Shares) to effectuate the terms of this Agreement.

(f) Theraclone has called all capital committed pursuant to that certain Series B-1 Preferred Stock and Warrant Purchase and Exchange Agreement, dated March 11, 2013, among Theraclone and the investors listed on Exhibit A thereto (the "Series B-1 Purchase Agreement").

Section 3.3 Corporate Authority; No Violation.

(a) Theraclone has the requisite corporate power and authority to enter into this Agreement and, subject to receipt of the Theraclone Stockholder Approval, to consummate the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been duly and validly authorized by the Theraclone Board of Directors and, except for (i) the Theraclone Stockholder Approval and (ii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware, no other corporate proceedings on the part of Theraclone are

necessary to authorize this Agreement or the consummation of the transactions contemplated hereby. The Theraclone Board of Directors, at a meeting duly called and held, has by unanimous vote of all its members, duly adopted resolutions (i) determining that it is in the best interests of Theraclone and its stockholders, and declared it advisable, to enter into this Agreement, (ii) approving this Agreement and authorizing the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby, including the Merger, (iii) directing that the Theraclone Stockholder Approval Matters be submitted to a vote at a meeting of stockholders of Theraclone and (iv) recommending that stockholders of Theraclone vote in favor of the Theraclone Stockholder Approval Matters (the item set forth in clause (iv) of this sentence, the "Theraclone Recommendation"). This Agreement has been duly and validly executed and delivered by Theraclone and, assuming this Agreement constitutes the valid and binding agreement of PharmAthene and Merger Sub, constitutes the valid and binding agreement of Theraclone, enforceable against Theraclone in accordance with its terms.

(b) Subject to the accuracy of the representations and warranties of PharmAthene and Merger Sub in Section 4.2(b), no authorization, consent, permit, action or approval of, or filing with, or notification to, any United States federal, state or local, provincial or foreign governmental or regulatory agency, commission, court, body, entity or authority (each, a "Governmental Entity") is necessary under applicable Law for the consummation by Theraclone of the transactions contemplated by this Agreement, except for such authorizations, consents, permits, actions, approvals, notifications or filings required under (i) the DGCL, (ii) the Securities Act of 1933, as amended (the "Securities Act"), (iii) the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and (iv) the items set forth on Section 3.3(b) of the Theraclone Disclosure Schedule (collectively, the "Theraclone Approvals"), and except for such authorizations, consents, permits, actions, approvals, notifications or filings that, if not obtained or made, would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

(c) The execution and delivery by Theraclone of this Agreement does not, and the consummation of the transactions contemplated hereby and compliance with the provisions of this Agreement will not (i) result in any violation of, or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, amendment, cancellation or acceleration of any material obligation or to the loss of a material benefit under, any loan or credit agreement, bond, debenture, note, mortgage, indenture, lease, supply agreement, license agreement, development agreement or other contract, agreement, obligation, commitment or instrument (each, including all amendments thereto, a "Contract"), to which Theraclone is a party or any of their respective properties or other assets is subject, (ii) conflict with or result in any violation of any provision of the Theraclone Certificate of Incorporation or the Theraclone Bylaws or (iii) assuming the Theraclone Approvals are obtained, conflict with or violate any applicable Laws, other than, in the case of clauses (i) and (iii), any such violation, conflict, default, termination, amendment, cancellation, acceleration, right or loss that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

Section 3.4 Financial Statements.

(a) Theraclone has previously delivered to PharmAthene true, correct and complete copies of the following financial statements and notes (collectively, the "Theraclone Financial Statements"): (i) the audited balance sheet of Theraclone as of December 31, 2012 (the "Theraclone Balance Sheet") and the related audited statement of operations, statement of changes in redeemable convertible preferred stock and stockholders' deficit and statement of cash flows of Theraclone for the year ended December 31, 2012; and (ii) the unaudited balance sheet of Theraclone as of June 30, 2013 (the "Theraclone Unaudited Interim Balance Sheet") and the related unaudited statement of operations, statement of stockholders' equity and statement of cash flows of Theraclone for the six (6) months then ended. The Theraclone Financial Statements are accurate and complete in all material respects and fairly present the financial position of Theraclone as of the respective dates thereof and the results of operations, changes in stockholders' equity and cash flows of Theraclone for the periods covered thereby. Except as may be indicated in the notes to the Theraclone Financial Statements, the Theraclone Financial Statements have been prepared in accordance with GAAP applied on a consistent basis throughout the periods covered.

(b) No financial statements of any person other than Theraclone are required by GAAP to be included in Theraclone Financial Statements.

(c) Except as required by GAAP, Theraclone has not, between the last day of its most recently ended fiscal year and the date of this Agreement, made or adopted any material change in its accounting methods, practices or policies in effect on such last day of its most recently ended fiscal year.

(d) Theraclone's external auditors have not identified to Theraclone any material weaknesses in Theraclone's internal controls impacting on the reliability of Theraclone Financial Statements.

(e) Theraclone has not had any material dispute with any of its auditors regarding accounting matters or policies during any of its past three (3) full fiscal years or during the current fiscal year and it has no reason to believe that there will be an adjustment to, or any restatement of, the Theraclone Financial Statements. No current or former independent auditor for Theraclone has resigned or been dismissed from such capacity as a result of or in connection with any disagreement with Theraclone on a matter of accounting practices. The Theraclone Financial Statements were prepared from, and are consistent with, the accounting records of Theraclone. Theraclone has also delivered to the PharmAthene copies of all letters from Theraclone's auditors to the Theraclone Board or audit committee thereof since January 1, 2010, together with copies of all responses thereto.

(f) Theraclone keeps books, records and accounts that, in reasonable detail, accurately and fairly reflect the transactions and acquisitions and dispositions of assets of Theraclone. Theraclone has designed and maintains a system of internal control over financial reporting sufficient to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external reporting and the preparation of financial statements for external purposes in accordance with GAAP. Theraclone has provided to PharmAthene copies of all letters, advice, and analyses that it has received from any accountant, consultant, or advisor since January 1, 2010 relating to financial controls and accounting systems.

Section 3.5 No Undisclosed Liabilities. Except for (i) those liabilities that are fully reflected or reserved for in the Theraclone Financial Statements, (ii) liabilities incurred since the date of the Theraclone Unaudited Interim Balance Sheet in the ordinary course of business consistent with past practice, (iii) those liabilities that are incurred after the date of this Agreement and are permitted to be incurred by this Agreement or are incurred as a result of the transactions contemplated by this Agreement (e.g., attorneys' fees), (iv) liabilities and obligations incurred in the ordinary course of business consistent with past practice that would not reasonably be expected, individually or in the aggregate, to have a Theraclone Material Adverse Effect, and (v) liabilities or obligations that have been discharged or paid in full in the ordinary course of business, as of the date of this Agreement, Theraclone does not have, and since the date of the Theraclone Unaudited Interim Balance Sheet Theraclone has not incurred, any liabilities or obligations of any nature whatsoever, whether or not accrued, absolute, matured, determined, contingent or otherwise, and whether or not required by GAAP to be reflected in the Theraclone Financial Statements in accordance with GAAP, other than those that have not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

Section 3.6 Compliance with Law; Permits.

(a) Theraclone is, and at all times since January 1, 2008 has been, in compliance with and not in default under or in violation of any applicable federal, state, provincial, municipal, local or foreign law, statute, ordinance, rule, regulation, judgment, order, injunction, decree or agency requirement of any Governmental Entity (collectively, "Laws" and each, a "Law"), except (i) with respect to any Drug Laws, which are addressed in Section 3.22 and (ii) for any such non-compliance, default or violation that would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

(b) Theraclone is in possession of all franchises, grants, authorizations, licenses, permits, easements, variances, exceptions, consents, certificates, approvals and orders of any Governmental Entity necessary for Theraclone to own, lease and operate its properties and assets or to carry on its businesses as they are now being conducted (the "Theraclone Permits"), except for any failure to have any of the Theraclone

Permits that have not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. All Theraclone Permits are in full force and effect, except for any failure to be in full force and effect that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

Section 3.7 Environmental Laws and Regulations. Except as has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect, (i) Theraclone has conducted its businesses in compliance with all applicable Environmental Laws, (ii) to the knowledge of Theraclone, none of the properties leased or operated by Theraclone contains any Hazardous Substance in amounts which would reasonably be expected to give rise to liability under Environmental Laws, (iii) since January 1, 2008, Theraclone has not received any written notice, demand letter or written request for information from any Governmental Entity indicating that Theraclone or any person whose liability Theraclone has retained or assumed, either contractually or by operation of law, may be in violation of, or liable under, any Environmental Law, (iv) to the knowledge of Theraclone, no Hazardous Substance has been disposed of, released or transported in violation of any applicable Environmental Law, or in a manner which has given rise to any liability under Environmental Law, from any properties presently or formerly owned, leased or operated by Theraclone or any other property and (v) neither Theraclone nor any of its properties or any person whose liability Theraclone has retained or assumed, either contractually or by operation of law, is subject to any liabilities relating to any pending or, to the knowledge of Theraclone, threatened suit, settlement, court order, administrative order, regulatory requirement, judgment or written claim asserted or arising under any Environmental Law.

Section 3.8 Employee Benefit Plans.

(a) Section 3.8(a) of the Theraclone Disclosure Schedule sets forth a true and complete list of each benefit plan, arrangement, agreement, program, practice, and policy, including each employee welfare benefit plan (including post-retirement health and insurance plan) within the meaning of section 3(1) of the Employee Retirement Income Security Act of 1974 ("ERISA"), each employee pension benefit plan within the meaning of section 3(2) of ERISA, and each bonus, incentive, deferred compensation, profit-sharing, savings, retirement, vacation, sick leave, share purchase, incentive compensation, equity or equity-based, severance, retention, employment (other than employment agreements that are terminable at-will without notice or without liability), consulting, change of control, fringe benefit, and employee loan plan, arrangement, agreement, program, practice, and policy, whether written or unwritten (the "Theraclone Benefit Plans"), in each case that is sponsored, maintained, or contributed to, or required to be maintained or contributed to, by Theraclone, or to which Theraclone or any person or entity that, together with Theraclone, is treated as a single employer under section 414 of the Code (a "Commonly Controlled Entity"), has any direct or indirect liability, contingent or otherwise, for the benefit of any current or former director, officer, employee, consultant, or independent contractor of Theraclone.

(b) With respect to each material Theraclone Benefit Plan, Theraclone has made available to PharmAthene complete and accurate copies of each of the following documents, as applicable: (i) such written Theraclone Benefit Plan (including all amendments thereto) or a written description of any such Theraclone Benefit Plan that is not otherwise in writing, (ii) the three most recent Annual Reports on IRS Form 5500 Series and accompanying schedules, if any, (iii) the most recent actuarial valuation report required to be filed under ERISA or required pursuant to applicable Laws or the terms of such Theraclone Benefit Plan (iv) a copy of the most recent summary plan description ("SPD"), together with all summaries of material modifications issued with respect to such SPD, if required under ERISA or required pursuant to applicable Laws or the terms of such Theraclone Benefit Plan, (v) if such Theraclone Benefit Plan is funded through a trust or any other funding vehicle, a copy of the trust or other funding agreement (including all material amendments thereto) and the latest financial statements thereof, if any, (vi) all contracts relating to such Theraclone Benefit Plan with respect to which Theraclone or any Commonly Controlled Entity may have any material liability, including insurance contracts, investment management agreements, subscription and participation agreements and record keeping agreements, (vii) the most recent determination letter received from (or determination letter request submitted to) the Internal Revenue Service ("IRS") or the most recent master or prototype opinion letter issued by the IRS with respect to a master or prototype plan adopted by Theraclone or any Commonly Controlled Entity upon

which such sponsor is entitled to rely (if applicable) with respect to any Theraclone Benefit Plan that is intended to be qualified under section 401(a) of the Code and (viii) communications (other than routine communications) from the IRS, the Department of Labor or the Pension Benefit Guaranty Corporation or any successor thereto with respect to any such Theraclone Benefit Plan.

(c) (i) Each of the Theraclone Benefit Plans (and any related trust or other funding vehicle) has been established and administered in compliance in all material respects with its terms and applicable Laws, including, but not limited to, ERISA and the Code and in each case the regulations thereunder and (ii) with respect to each of the Theraclone Benefit Plans intended to be "qualified" within the meaning of section 401(a) of the Code, either the IRS has issued a favorable determination or opinion letter that has not been revoked, or an application for a favorable determination or opinion letter was timely submitted to the IRS for which no final action has been taken by the IRS, or the plan is relying on a prototype or volume submitter letter, and, to the knowledge of Theraclone there are no existing circumstances or events that have occurred that could reasonably be expected to adversely affect the qualified status of any such plan.

(d) Neither Theraclone nor any Commonly Controlled Entity has during the period beginning with the sixth plan year preceding the plan year that includes the Effective Time ever sponsored, maintained, contributed to, or been required to maintain or contribute to, or has any actual or contingent liability under any employee benefit plan subject to Title IV or section 302 of ERISA or sections 412 or 4971 of the Code, or any "multiemployer pension plan" (as such term is defined in section 3(37) of ERISA), and neither Theraclone nor any Commonly Controlled Entity has incurred any withdrawal liability which remains unsatisfied, and to the knowledge of Theraclone, no events have occurred and no circumstances exist that could reasonably be expected to result in any such liability to Theraclone.

(e) All material contributions and other amounts payable by Theraclone as of the date of this Agreement with respect to each Theraclone Benefit Plan in respect of any plan year during the period beginning with the sixth plan year preceding the plan year that includes the Effective Time have been paid or, if not yet due have been properly accrued in accordance with GAAP in all material respects. Theraclone has not engaged in a transaction in connection with which Theraclone became, or could reasonably be expected to become, subject to either a material civil penalty assessed pursuant to sections 409 or 502(i) of ERISA or a material Tax imposed pursuant to sections 4975 or 4976 of the Code. There are no material pending or, to the knowledge of Theraclone, threatened claims (other than routine claims for benefits) by, on behalf of or against any of the Theraclone Benefit Plans or any trusts related thereto.

(f) Neither the execution and delivery of this Agreement nor the consummation of the transactions contemplated hereby (either alone or in conjunction with any other event, including any termination of employment at or following the Effective Time) will (i) cause any material payment (including, without limitation, severance, unemployment compensation, change in control payment, "excess parachute payment" (within the meaning of section 280G of the Code), forgiveness of indebtedness, or other compensation or benefits) to become due to any current or former director, officer, employee, consultant, or independent contractor of Theraclone from Theraclone or any Commonly Controlled Entity under any Theraclone Benefit Plan or otherwise (other than amounts payable to any such person in his or her capacity as an equityholder of Theraclone), (ii) materially increase any benefits otherwise payable under any Theraclone Benefit Plan, (iii) result in any acceleration of the time of payment or vesting of any such benefits, (iv) require the funding of any such benefits, (v) result in any breach or violation of or default under, or limit (except as may be specifically set forth in this Agreement) Theraclone's right to amend, modify, or terminate any collective bargaining agreement or Theraclone Benefit Plan, or (vi) result in the payment of any amount that would, individually or in combination with any other such payment, not be deductible as a result of section 280G of the Code. Section 3.8(f) of the Theraclone Disclosure Schedule sets forth, as of the date hereof, individuals the Company reasonably believes are "disqualified individuals" within the meaning of section 280G of the Code and the Regulations thereunder.

(g) All Theraclone Stock Options have an exercise price per share that was not less than the "fair market value" of one Theraclone Common Share on the date of grant. All Theraclone Stock Options have

been properly accounted for in accordance with GAAP in all material respects, and no change is expected in respect of any prior financial statements relating to expenses for stock-based compensation. There is no pending audit, investigation or inquiry by any Governmental Entity or by Theraclone (directly or indirectly) with respect to Theraclone's stock option granting practices or other equity compensation practices. The grant date of each Theraclone Stock Option is on or after the date on which such grant was authorized by Theraclone board of directors or the compensation committee thereof.

(h) Each Theraclone Benefit Plan that is a "nonqualified deferred compensation plan" (as defined in section 409A(d)(1) of the Code) subject to section 409A of the Code has been operated since January 1, 2005 in good faith compliance with section 409A of the Code and the regulations and guidance promulgated thereunder.

(i) No Theraclone Benefit Plan provides benefits, including death or medical, health, or other welfare benefits (whether or not insured), with respect to current or former directors, officers, employees, consultants, or independent contractors of Theraclone or any Commonly Controlled Entity after retirement or other termination of service other than (i) coverage mandated by applicable Laws (including continuation coverage under section 4980B of the Code), (ii) death benefits or retirement benefits under any "employee pension benefit plan," as such term is defined in section 3(2) of ERISA, (iii) deferred compensation benefits accrued as liabilities on the books of Theraclone or a Commonly Controlled Entity or (iv) benefits the full direct cost of which is borne by the current or former employee (or beneficiary thereof), and no circumstances exist that would reasonably be expected to cause Theraclone or a Commonly Controlled Entity to become obligated to provide any such benefits.

(j) No Theraclone Benefit Plan is subject to the laws of any jurisdiction outside of the United States.

Section 3.9 Absence of Certain Changes or Events. From the date of the Theraclone Unaudited Interim Balance Sheet to the date hereof, (i) the businesses of Theraclone has been conducted in all material respects in the ordinary course of business consistent with past practice and (ii) there has not been any change, effect, event, development, occurrence or state of facts that has had, or would reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

Section 3.10 Investigations; Litigation. Except with respect to any Drug Laws, which are addressed in Section 3.22, (a) there is no investigation or review pending (or, to the knowledge of Theraclone, threatened) by any Governmental Entity with respect to Theraclone and (b) there are no actions, suits, arbitrations, mediations or proceedings pending (or, to the knowledge of Theraclone, threatened) against Theraclone, or any of their respective properties at law or in equity before, and there are no orders, judgments or decrees of, or before, any Governmental Entity, in the case of each of clause (a) or (b), which has had or would reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

Section 3.11 Proxy Statement; Other Information. None of the information provided by Theraclone to be included in the Proxy Statement will, at the time of the mailing of the Proxy Statement or any amendment or supplement thereto or at the time of the PharmAthene Meeting, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. None of the information provided by Theraclone to be included in the Form S-4 Registration Statement will, at the time the Form S-4 Registration Statement is filed with the SEC or at the time it becomes effective under the Securities Act, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

Section 3.12 Tax Matters.

(a) (i) Theraclone has prepared in material compliance with the prescribed manner and filed within the time required by applicable Law (taking into account any extension of time within which to file) all material Tax Returns required to be filed by it with all relevant Governmental Entities, and all such Tax Returns are true, correct and complete in all material respects;

(ii) Theraclone has timely paid all material Taxes whether or not shown on any Tax Return that are required to have been paid by it;

(iii) the Theraclone Financial Statements reflect adequate reserves for all material unpaid Taxes payable by Theraclone for all taxable periods and portions thereof through the date of such financial statements and Theraclone has not incurred any material Tax liability since the date of such financial statements other than for Taxes arising in the ordinary course of business; and

(iv) as of the date of this Agreement, there are not pending or, to the knowledge of Theraclone, threatened, any audits, examinations, assessments, reassessments or other proceedings in respect of any Tax liability of Theraclone.

(b) There are no waivers of any statute of limitations in respect of assessment or collection of Taxes or any agreements or requests for an extension of time for assessment or collection of any Tax, which waiver or extension is currently effective.

(c) Theraclone is not a party to any agreement relating to Tax allocation, Tax indemnification or Tax sharing and Theraclone does not have any liability for Taxes of any person (other than members of the affiliated group, within the meaning of section 1504(a) of the Code, filing consolidated federal income Tax Returns of which Theraclone is the common parent) under Treasury Regulation section 1.1502-6, Treasury Regulation section 1.1502-78 or any similar state, local or non-U.S. Laws, as a transferee or successor, by contract or otherwise.

(d) No claim in writing has been made against Theraclone by any Governmental Entity in a jurisdiction where Theraclone does not file Tax Returns that Theraclone is or may be subject to taxation by that jurisdiction. All deficiencies for Taxes asserted or assessed in writing against Theraclone has been fully and timely paid, settled or properly reflected in the Theraclone Financial Statements.

(e) Theraclone has made available to PharmAthene correct and complete copies of all material U.S. federal income Tax Returns, state income Tax apportionment data, examination reports and statements of deficiencies for which the applicable statutory periods of limitations have not yet expired.

(f) There are no material liens, claims, mortgages, encumbrances, pledges, security interests, equities or charges of any kind (each, a "Lien") for Taxes upon any of the assets of Theraclone, except for Permitted Liens.

(g) Theraclone has withheld and paid to the appropriate Governmental Entity all material Taxes required to have been withheld and paid by Theraclone in connection with amounts paid to any employee, independent contractor, creditor, stockholder, or third party for all periods ending on or before the Closing Date.

(h) Theraclone has not constituted a "distributing corporation" or a "controlled corporation" (within the meaning of section 355(a)(1)(A) of the Code) in a distribution that could constitute part of a "plan" or "series of related transactions" (within the meaning of section 355(e) of the Code) in conjunction with the transactions contemplated by this Agreement.

(i) Any closing agreements under section 7121 of the Code or any similar provision of state, local or non-U.S. Laws or full acceptance letters which Theraclone has executed, entered into or received is valid and enforceable in accordance with its terms. Theraclone has not committed fraud, collusion, concealment or malfeasance or made a misrepresentation of material fact in connection with the execution or entering into of any closing agreement with, or the receipt of any full acceptance letter or private letter ruling from any Governmental Entity.

(j) Theraclone has not agreed to and is not required to make any adjustment pursuant to section 481(a) of the Code or any similar provision of applicable Law, and Theraclone has no knowledge that any Governmental Entity has proposed any such adjustment, nor does Theraclone have any application pending with any Governmental Entity requesting permission for any change in accounting methods. There is no taxable income of Theraclone that will be required under any applicable Law to be reported in a taxable period beginning after the Closing Date which taxable income was realized (or

reflects economic income) arising prior to the Closing Date as a result of any: (i) change in method of accounting for a taxable period ending on or prior to the Closing Date; (ii) "closing agreement" as described in section 7121 of the Code executed on or prior to the Closing Date; (iii) installment sale or open transaction disposition made on or prior to the Closing Date; or (iv) election under section 108(i) of the Code.

(k) Theraclone has never participated in any reportable transaction within the meaning of Treasury Regulation section 1.6011-4(b) or taken any position on any Tax Return that would subject it to a substantial understatement of Tax penalty under section 6662 of the Code which has not been properly disclosed to the IRS as required by the Code and the Treasury Regulations promulgated thereunder.

(l) Theraclone has never been a "United States real property holding corporation," as defined in section 897(c)(2) of the Code, at any time during the past three years or made an election under section 897(i) of the Code to be treated as a domestic corporation for purposes of sections 897, 1445 and 6039C of the Code or been a passive foreign investment company within the meaning of section 1297 of the Code. Theraclone has never had a permanent establishment in any country other than the United States, nor has it engaged in a trade or business in any country other than the United States that subjected it to Tax in such country.

(m) Theraclone has no knowledge of any fact, agreement, plan or other circumstance that would cause the Merger to fail to qualify as a reorganization within the meaning of section 368(a) of the Code.

(n) No employee, director, consultant or other service provider of Theraclone is entitled to receive any gross up payment from Theraclone by reason of any taxes imposed by Section 4999 of the Code.

Section 3.13 Employee Relations Matters.

(a) Theraclone is not a party to, or bound by, any collective bargaining agreement, contract or other agreement or understanding with a labor union, labor organization, trade union or works council. Theraclone has not committed any material unfair labor practice as defined in the National Labor Relations Act or other applicable Laws. To the knowledge of Theraclone, there are no organizational efforts with respect to the formation of a collective bargaining unit or, as of the date of this Agreement, labor union organizing activities being made or threatened involving employees of Theraclone.

(b) There are no pending or, to the knowledge of Theraclone, threatened arbitrations, grievances, labor disputes, strikes, lockouts, slowdowns or work stoppages against Theraclone, nor, to the knowledge of Theraclone, has there been any of the foregoing that has had, or would reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

(c) Theraclone is and has been in compliance in all material respects with all applicable Laws respecting employment and employment practices, including all Laws respecting terms and conditions of employment, health and safety, wages and hours, child labor, immigration, employment discrimination, disability rights or benefits, equal opportunity, plant closures and layoffs, affirmative action, workers' compensation, labor relations, employee leave issues, employee classifications, and unemployment insurance. Theraclone is not in any material respect delinquent in payments to any employees or former employees for any services or amounts required to be reimbursed or otherwise paid. Theraclone is not a party to, or otherwise bound by, any order of any Governmental Entity relating to employees or employment practices other than any ordinary course settlement with a Governmental Entity, in each case in an amount not more than $100,000 individually.

(d) Theraclone has not received written notice of (i) any unfair labor practice charge or complaint pending or threatened before the National Labor Relations Board or any other Governmental Entity against it, (ii) any complaints, grievances or arbitrations against it arising out of any collective bargaining agreement, (iii) any charge or complaint with respect to or relating to it pending before the Equal Employment Opportunity Commission or any other Governmental Entity responsible for the prevention of unlawful employment practices, (iv) the intent of any Governmental Entity responsible for the enforcement of labor, employment, wages and hours of work, child labor, immigration, or occupational safety and health Laws to conduct an investigation with respect to or relating to them or such

investigation is in progress or (v) any complaint, lawsuit or other proceeding pending or, to the knowledge of Theraclone, threatened in any forum by or on behalf of any present or former employee of such entities, any applicant for employment or classes of the foregoing alleging breach of any express or implied contract of employment, any applicable Law governing employment or the termination thereof or other discriminatory, wrongful or tortious conduct in connection with the employment relationship, in each case, which has had or would reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect.

(e) Theraclone is not currently engaged in any layoffs or employment terminations sufficient in number to trigger application of the Worker Adjustment and Retraining Notification Act, as amended (the "WARN Act") or any similar state, local or foreign Law. During the ninety (90) day period prior to the date of this Agreement, not more than thirty (30) employees of Theraclone were terminated from any single site of employment.

(f) As of the date of this Agreement, no Theraclone Key Employee has given notice terminating employment with Theraclone, which termination will be effective on or after the date of this Agreement. For the purposes hereof ("Theraclone Key Employee") means the persons set forth in Section 3.13(f) of the Theraclone Disclosure Schedule.

Section 3.14 Intellectual Property.

(a) To the knowledge of Theraclone, Theraclone owns, licenses, sublicenses or otherwise possesses legally enforceable rights to use all Intellectual Property material to the conduct of the business of Theraclone, as currently conducted and as currently proposed to be conducted (in each case excluding generally commercially available, off-the-shelf software programs).

(b) The execution and delivery of this Agreement by Theraclone and the consummation of the Merger will not result in the breach of or loss of rights under, or create on behalf of any third party the right to terminate or modify, (i) any license, sublicense or other agreement relating to any Intellectual Property owned by Theraclone under which Theraclone has granted an exclusive license or which is otherwise material to the business of Theraclone, as currently conducted and as currently proposed to be conducted (the "Theraclone Intellectual Property"), or (ii) any license, sublicense or other agreement to which Theraclone is a party and pursuant to which Theraclone is authorized to use any third party's Intellectual Property on an exclusive basis or that is otherwise material to the business of Theraclone, as currently conducted and as currently proposed to be conducted, excluding generally commercially available, off-the-shelf software programs (the "Theraclone Third Party Intellectual Property"). The execution and delivery of this Agreement by Theraclone and the consummation of the Merger will not, as a result of any contract to which Theraclone is a party, result in PharmAthene or Theraclone granting to any third party any rights or licenses to any Intellectual Property or the release or disclosure of any trade secrets that would not have been granted or released absent such execution or consummation.

(c) Section 3.14(c) of the Theraclone Disclosure Schedule sets forth a complete and accurate list of all U.S. and foreign issued patents and pending patent applications and registered trademarks, service marks, copyrights and domain names owned or co-owned by Theraclone material to the conduct of the business of Theraclone, as currently conducted and as currently proposed to be conducted. Section 3.14(c) of the Theraclone Disclosure Schedule sets forth a complete and accurate list of all U.S. and foreign issued patents and pending patent applications and registered trademarks, service marks, copyrights and domain names material to the conduct of the business of Theraclone, as currently conducted and as currently proposed to be conducted, licensed to Theraclone, and Section 3.14(c) of the Theraclone Disclosure Schedule sets forth a complete and accurate list of all other licenses to Theraclone of Theraclone Intellectual Property or Theraclone Third Party Intellectual Property.

(d) To the knowledge of Theraclone, all items of Intellectual Property set forth in Section 3.14(c) of the Theraclone Disclosure Schedule are subsisting and have not expired or been cancelled, all maintenance and renewal fees necessary to preserve such rights have been paid, and all such rights (other than such rights that are currently the subject of pending applications) are valid and enforceable. Theraclone has implemented commercially reasonable measures to maintain the confidentiality of

Theraclone Intellectual Property of a nature that Theraclone intends to keep confidential. To the knowledge of Theraclone, no third party is infringing, violating or misappropriating any of the Theraclone Intellectual Property or Theraclone Third Party Intellectual Property, except for infringements, violations or misappropriations that, individually or in the aggregate, have not had, and would not be reasonably likely to have, a Theraclone Material Adverse Effect.

(e) To the knowledge of Theraclone, the conduct of the business of Theraclone as currently conducted and as currently proposed to be conducted does not infringe, violate, conflict with or constitute a misappropriation of any Intellectual Property of any third party. Since January 1, 2008, Theraclone has not received any written claim or notice alleging any such infringement, violation or misappropriation.

(f) All former and current employees, consultants and contractors of Theraclone who contribute or have contributed to the creation or development of any Intellectual Property for or on behalf of Theraclone material to the conduct of the business of Theraclone, as currently conducted and as currently proposed to be conducted, have executed written instruments that assign to Theraclone all right, title and interest in and to any such contributions.

(g) Theraclone's collection, storage, use and dissemination of personally identifiable information is and since January 1, 2008, has been in compliance in all material respects with all applicable Law, including Laws relating to privacy, data security and data protection, and all applicable privacy policies and terms of use or other contractual obligations applicable thereto. Since January 1, 2008, there have been no written allegations or claims received by Theraclone from any Governmental Entity or any person of a breach of any such Laws, policies or obligations. To the knowledge of Theraclone, since January 1, 2008, there have been no material losses or thefts of any such information.

(h) Except as set forth in Section 3.14 of the Theraclone Disclosure Schedule, Theraclone has no royalty payment obligations, or agreements with respect to royalty obligations, or understandings that could give rise to royalty obligations, however calculated, with respect to sales, sublicensing or commercialization of any products (including products under development), or with respect to the use of any Theraclone Intellectual Property necessary to create, develop, test or manufacture such products, or used in conjunction with such products.

Section 3.15 Real Property.

(a) Theraclone does not own any real property.

(b) Theraclone has a good leasehold estate in each lease of real property ("Real Property Leases"), under which Theraclone is a tenant or a subtenant ("Leased Real Property"), in each case free and clear of all Liens and defects in title, other than Permitted Liens. Theraclone is not in breach of or default under the terms of any Real Property Lease, except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. To the knowledge of Theraclone, no other party to any Real Property Lease is in breach of or default under the terms of any Real Property Lease, which breach or default has had or would reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. Each Real Property Lease is a valid and binding obligation of Theraclone and, to the knowledge of Theraclone, of each other party thereto, and is in full force and effect, except that (i) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, relating to creditors' rights generally and (ii) equitable remedies of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(c) Section 3.15(c) of the Theraclone Disclosure Schedule sets forth, as of the date of this Agreement, a true and complete list of all leases, subleases or similar agreements under which Theraclone is the landlord or the sublandlord (such leases, subleases and similar agreements, collectively, the "Real Property Subleases"). Theraclone is not in breach of or default under the terms of any Real Property Sublease, except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. To the knowledge of Theraclone, no other party to any Real Property Sublease is in breach of or default under the terms of any

Real Property Sublease except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. Each Real Property Sublease is a valid and binding obligation of Theraclone and, to the knowledge of Theraclone, is in full force and effect, except that (i) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, relating to creditors' rights generally and (ii) equitable remedies of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

Section 3.16 Required Vote of Theraclone Stockholders. Except for the approval ("Theraclone Stockholder Approval") by the written consent of (a) (i) holders of at least a majority of the outstanding Theraclone Common Shares and outstanding shares of Theraclone Preferred Stock (voting together as a single voting class on an as-converted to Theraclone Common Shares basis) and (ii) the holders of at least a majority of the outstanding shares of the Theraclone Preferred Stock (voting together as a single voting class on an as-converted to Theraclone Common Shares basis) in favor of the adoption of this Agreement and the Merger and the election of the PharmAthene Board Designees and the Theraclone Board Designees and (b) holders of at least a majority of the outstanding shares of the Theraclone Preferred Stock in favor of the conversion of the shares of Theraclone Preferred Stock into Theraclone Common Shares on a one-for-one basis (the matters in clauses (a) and (b) together, the "Theraclone Stockholder Approval Matters"), no vote of the stockholders of Theraclone or the holders of any other securities of Theraclone (equity or otherwise) is required by any applicable Law, the certificate of incorporation or bylaws or other equivalent organizational documents of Theraclone to consummate the transactions contemplated hereby.

Section 3.17 Takeover Statutes. Assuming that none of PharmAthene, Merger Sub or any of their "affiliates" or "associates" (as defined in section 203 of the DGCL) has been an "interested stockholder" (as defined in section 203 of the DGCL) at any time within three years prior to the date hereof, none of section 203 of the DGCL, any other state anti-takeover statute or regulation, or any takeover-related provision in the Theraclone Certificate of Incorporation or Theraclone Bylaws would prohibit or restrict the ability of Theraclone to consummate the Merger or of the Theraclone stockholders party to the Theraclone Voting Agreement to perform their respective obligations thereunder.

Section 3.18 Material Contracts.

(a) Except as disclosed in Section 3.18 of the Theraclone Disclosure Schedule, and except for this Agreement, Theraclone is not bound by any contract, arrangement, commitment or understanding:

(i) that constitutes a partnership, joint venture, technology sharing or similar agreement between Theraclone and any other person;

(ii) with respect to the service of any directors, officers, employees, or independent contractors or consultants that are natural persons, involving the payment of $100,000 or more in any 12 month period, other than those that are terminable by Theraclone on no more than 30 days' notice without penalty;

(iii) that limits the ability of Theraclone to compete or enter into in any line of business, in any geographic area or with any person and, in each case, which limitation or requirement would reasonably be expected to be material to Theraclone;

(iv) with or to a labor union, works council or guild (including any collective bargaining agreement or similar agreement);

(v) relating to the use or right to use Intellectual Property, including any license or royalty agreements, other than agreements entered into in the ordinary course of business and that are not material to Theraclone;

(vi) that provides for indemnification by Theraclone to any person, other than an agreement entered into in the ordinary course of business and that is not material to Theraclone;

(vii) between Theraclone and any current or former director or officer of Theraclone, or any affiliate of any such person (other than Theraclone Benefit Plan);

(viii) with respect to (A) Indebtedness, (B) any capital lease obligations to any person other than Theraclone, (C) any obligations to any person other than Theraclone in respect of letters of credit and bankers' acceptances, (D) any indebtedness to any person other than Theraclone under interest rate swap, hedging or similar agreements, (E) any obligations to pay to any person other than Theraclone the deferred purchase price of property or services, (F) indebtedness secured by any Lien on any property owned by Theraclone even though the obligor has not assumed or otherwise become liable for the payment thereof, or (G) any guaranty of any such obligations described in clauses (A) through (F) of any person other than Theraclone, in each case, having an outstanding amount in excess of $250,000 individually or $500,000 in the aggregate;

(ix) that is material to Theraclone or that contains any so called "most favored nation" provision or similar provisions requiring Theraclone to offer to a person any terms or conditions that are at least as favorable as those offered to one or more other persons;

(x) pursuant to which any agent, sales representative, distributor or other third party markets or sells any Theraclone Product;

(xi) pursuant to which Theraclone is a party granting rights of first refusal, rights of first offer or similar rights to acquire any business or assets of the Theraclone;

(xii) relating to the purchase or sale of assets outside the ordinary course of business of Theraclone;

(xiii) relating to the issuance of any securities of Theraclone (other than those set forth on Section 3.2(a) to the Disclosure Schedule);

(xiv) pursuant to which any material asset of Theraclone is leased;

(xv) relates to the purchase of (A) any equipment entered into since December 31, 2012 and (B) any materials, supplies, or inventory since December 31, 2012, other than any agreement which, together with any other related agreement, involves the expenditure by the Theraclone of less than $100,000;

(xvi) that represents a purchase order with any supplier for the purchase of inventory items in an amount in excess of $100,000 of materials;

(xvii) pursuant to which Theraclone is a party and having a remaining term of more than one (1) year after the date hereof or involving a remaining amount payable thereunder (either to or from Theraclone) as of the date hereof, of at least $100,000;

(xviii) that involves the payment of $250,000 or more in any 12 month period after the date hereof; or

(xix) that would prevent, delay or impede the consummation, or otherwise reduce the contemplated benefits, of any of the transactions contemplated by this Agreement.

Theraclone has previously made available to PharmAthene or its representatives complete and accurate copies of each Contract of the type described in this Section 3.18(a) (collectively referred to herein as "Theraclone Material Contracts").

(b) All of the Theraclone Material Contracts were entered into at arms' length in the ordinary course of business and are valid and in full force and effect, except to the extent they have previously expired in accordance with their terms. Theraclone has not given or received a notice of cancellation or termination under any Theraclone Material Contract, or has, or is alleged to have, and to the knowledge of Theraclone, none of the other parties thereto have, violated any provision of, or committed or failed to perform any act, and no event or condition exists, which with or without notice, lapse of time or both would constitute a default under the provisions of, any Theraclone Material Contract.

(c) Theraclone is not in breach of or default under the terms of any Theraclone Material Contract, except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. To the knowledge of Theraclone, no other party to any Theraclone Material Contract is in breach of or default under the terms of any Theraclone Material Contract except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. Each Theraclone Material Contract is a valid and binding obligation of Theraclone and, to the knowledge of Theraclone, of each other party thereto, and is in full force and effect, except that (i) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, relating to creditors' rights generally and (ii) equitable remedies of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

Section 3.19 Finders or Brokers. Theraclone has not employed any investment banker, broker or finder in connection with the transactions contemplated by this Agreement who is entitled to any fee or any commission in connection with or upon consummation of the transactions contemplated hereby.

Section 3.20 Insurance. Theraclone owns or holds policies of insurance in amounts that Theraclone has determined in good faith provide reasonably adequate coverage for its business and in amounts sufficient to comply with (i) applicable Law and (ii) all Theraclone Material Contracts to which Theraclone is a party or is otherwise bound.

Section 3.21 Affiliate Transactions. There are no transactions, agreements or arrangements between (i) Theraclone on the one hand, and (ii) any director, executive officer or affiliate of Theraclone or any of their respective affiliates or immediate family members, on the other hand, of the type that would be required to be disclosed under Item 404 of Regulation S-K under the Securities Act (such transactions referred to herein as "Theraclone Affiliate Transactions").

Section 3.22 Food And Drug Administration Matters.

(a) Theraclone is not in violation of the United States Federal Food, Drug, and Cosmetic Act, as amended, 21 U.S.C. Section 301 et seq. ("FDCA"), the United States Public Health Service Act, as amended ("PHSA"), including 42 U.S.C. Sections 262, 264, 282, and 284, the False Claims Act, 31 U.S.C. Sections 3729 through 3733, as amended, the Controlled Substances Act, 21 U.S.C. Section 801 et seq., as amended, any federal or state anti-kickback laws, or the regulations and regulatory guidance promulgated thereunder or similar Laws of any state, municipality, or foreign jurisdiction (collectively, "Drug Laws") applicable to their activities, including, but not limited to, those relating to GLP (as defined below), good clinical practices, adverse event reporting, good manufacturing practices, recordkeeping, user fees, clinical trial registries, and filing of reports, except for such violations that would not, individually or in the aggregate, reasonably be expected to have a Theraclone Material Adverse Effect. Theraclone has not received any written notice or other written communication from the United States Food and Drug Administration (the "FDA") or any other Governmental Entity alleging any violation of any Drug Law, including any failure to maintain systems and programs adequate to ensure compliance with any applicable Law related to product quality, including "Good Manufacturing Practice," "Good Laboratory Practice," and "Good Clinical Practice" as those terms are defined by the FDA and in all applicable Drug Laws, by Theraclone relating to any activity that is subject to Drug Laws. Theraclone, and any third party acting on behalf of Theraclone, has not received any (i) notices of inspectional observations (including those recorded on form FDA 483), warning letters, untitled letters from the FDA or any other Governmental Entity, (ii) notice of any intention to conduct an investigation or review from the FDA or any other Governmental Entity, or (iii) other written documents issued by the FDA or any other Governmental Entity that indicate lack of compliance with any Drug Law by Theraclone or by persons who are otherwise performing services for the benefit of Theraclone.

(b) Theraclone has all registrations, applications, licenses, requests for approvals, exemptions, permits and other regulatory authorizations (collectively, "Authorizations") from Governmental Entities that are material to the conduct of the business of Theraclone, as currently conducted, and such Authorizations are in full force and effect in all material respects. Theraclone has filed all material reports, notifications and

filings with, and have paid all material regulatory fees to, the applicable Governmental Entity necessary to maintain all of such Authorizations in full force and effect. Theraclone is, and has been, in compliance in all material respects with the terms of all Authorizations. Theraclone has not received written notice to the effect that a Governmental Entity was or is considering the amendment, termination, revocation or cancellation of any Authorization. The consummation of the Merger or any of the other transactions contemplated by this Agreement, in and of itself, will not cause the amendment, termination, revocation or cancellation of any material Authorization.

(c) All preclinical tests performed in connection with or as the basis for any submission to the FDA or other comparable Governmental Entity submitted by Theraclone or that Theraclone anticipates will be submitted to the FDA or other comparable Governmental Entity either (i) have been conducted in accordance, in all material respects, with applicable Good Laboratory Practice ("GLP") requirements, including those contained in 21 C.F.R. Part 58 or (ii) involved experimental research techniques that were not required to be performed by a registered GLP testing laboratory (with appropriate notice being given to FDA or the applicable Governmental Entity, if required), but employed procedures and controls generally used by qualified experts in the conduct of preclinical studies.

(d) None of Theraclone's product candidates ("Theraclone Products") have received marketing approval from any Governmental Entity. All human clinical trials to the extent conducted by Theraclone or to the knowledge of Theraclone, by a third party on behalf of Theraclone has been and are being conducted in compliance with all applicable requirements of "Good Clinical Practice," "Informed Consent" and, "Institutional Review Boards," as those terms are defined by the FDA and in all applicable Drug Laws relating to clinical trials or the protection of human subjects, including those contained in the International Conference on Harmonization E6: Good Clinical Practices Consolidated Guideline, and in 21 C.F.R. Parts 50, 54, 56, and 312, and the provisions governing the privacy of patient medical records under the Health Insurance Portability and Accountability Act of 1996 and the implementing regulations of the United States Department of Health and Human Services, and all applicable comparable foreign Drug Laws, except for such failures to be in compliance that would not, individually or in the aggregate, reasonably be expected to have a Theraclone Material Adverse Effect. Neither Theraclone nor to the knowledge of Theraclone, anyone acting on behalf of Theraclone, has received any written notice that the FDA or any other Governmental Entity or institutional review board has initiated, or threatened to initiate, any clinical hold or other action to suspend any clinical trial or suspend or terminate any IND (or foreign equivalent thereto) sponsored by Theraclone, or otherwise restrict the preclinical research on or clinical study of any Theraclone Product.

(e) All clinical trials conducted by or on behalf of Theraclone and the results of all such clinical trials have been registered and disclosed in all material respects in accordance with all applicable Drug Laws. Theraclone has filed all annual and periodic reports, amendments and IND Safety Reports required for any Theraclone Product required to be made to the FDA or any other Governmental Entity, except for such failures to file that would not, individually or in the aggregate, reasonably be expected to have a Theraclone Material Adverse Effect.

(f) All manufacturing operations conducted by Theraclone or, to the knowledge of Theraclone, for the benefit of, Theraclone with respect to Theraclone Products have been and are being conducted in accordance, in all material respects, with applicable current Good Manufacturing Practices as that term is defined by the FDA and in all applicable Drug Laws, and to the knowledge of Theraclone, there are no material quality control or assurance issues with respect thereto.

(g) There are no proceedings pending or, to the knowledge of Theraclone, threatened against Theraclone with respect to (i) a violation by Theraclone of any Drug Law, or (ii) any alleged injuries to a participant in any clinical trial conducted by or on behalf of Theraclone.

(h) Theraclone has provided or made available to PharmAthene reports of all material preclinical and material clinical studies and trials conducted by Theraclone or by a third party on behalf of Theraclone regarding the efficacy and safety of its product candidates.

(i) Theraclone has delivered or made available to PharmAthene all material correspondence and material meeting minutes received from or sent to the FDA and any other similar Governmental Entity, and all material written reports of phone conversations, visits or other contact with the FDA and any other similar Governmental Entity, relating to any Theraclone Product or to compliance with any Drug Law, including any and all notices of inspectional observations, and any other documents received by Theraclone from the FDA or comparable foreign Governmental Entities which bear in any material way on Theraclone's compliance with regulatory requirements of the FDA or comparable foreign Governmental Entities, or on the likelihood or timing of approval of any Theraclone Product.

(j) None of Theraclone, or any officer, employee or, to the knowledge of Theraclone, agent of Theraclone has made an untrue statement of a material fact or fraudulent statement to the FDA or any other Governmental Entity, failed to disclose a material fact required to be disclosed to the FDA or any other Governmental Entity, or committed any act, made any statement, or failed to make any statement, that would reasonably be expected to provide a basis for the FDA to invoke its policy respecting "Fraud, Untrue Statements of Material Fact, Bribery, and Illegal Gratuities," set forth in 56 Fed. Reg. 46191 (September 10, 1991). Neither Theraclone nor, to the knowledge of Theraclone, any officer, employee or agent of Theraclone has been convicted of any crime or engaged in any conduct that would reasonably be expected to result in or that has resulted in (i) debarment under 21 U.S.C. 335a or any similar state or federal Law or similar Law of a country other than the United States or (ii) exclusion from participating in the federal health care programs under 1128 of the Social Security Act or any similar state or federal Law or similar Law of a country other than the United States.

Section 3.23 Government Contracts.

(a) Theraclone has delivered or made available to PharmAthene complete and accurate copies of all Theraclone Government Contracts. Each of the Theraclone Government Contracts is valid, binding and in full force and effect, has been awarded to or novated to Theraclone, and is enforceable in accordance with its terms by Theraclone subject to the Governmental Entity's rights, including its right to terminate each such Theraclone Government Contract for the convenience of the Governmental Entity. For the purposes of this Agreement, "Theraclone Government Contract" means any Government Contract of Theraclone, the period of performance of which has not yet expired or terminated, or expired or terminated since January 1, 2008, or for which final payment has not yet been received or has been received since January 1, 2008. For the purposes of this Agreement, "Government Contract" means any prime contract, subcontract, grant, cooperative agreement, base ordering agreement, pricing agreement, letter contract or other similar arrangement of any kind, between a person or its Subsidiaries, on the one hand, and (i) any Governmental Entity, (ii) any prime contractor of a Governmental Entity in its capacity as a prime contractor, or (iii) any subcontractor with respect to any contract of a type described in clauses (i) or (ii) above, on the other hand.

(b) Theraclone has complied in all material respects with all statutory and regulatory requirements, including the Armed Services Procurement Act, the Service Contract Act, the Procurement Integrity Act, the False Claims Act, the Buy American Act, the Trade Agreements Act, Executive Order No. 11246 and related regulations, the Truth in Negotiation Act, the Federal Procurement and Administrative Services Act, the Federal Acquisition Regulation, where and as applicable to each of the Theraclone Government Contracts or to bids or proposals for Government Contracts submitted since January 1, 2008. The representations and certifications made by Theraclone with respect to such Government Contracts were accurate in all material respects as of their effective date and, to the extent that any such certifications are on-going, Theraclone has complied with all such certifications in all material respects. No past performance evaluation received by Theraclone, if any, with respect to any such Theraclone Government Contract has set forth a default or other material failure to perform thereunder or termination thereof, or assigned a rating of less than satisfactory.

(c) With respect to the Theraclone Government Contracts, no Governmental Entity, prime contractor or higher-tier subcontractor under a Government Contract or any other person has notified Theraclone in writing of any actual or alleged material violation or breach of any statute, regulation, representation, certification, disclosure obligation, contract term, condition, clause, provision or specification by

Theraclone that would be reasonably expected to materially affect payments under any Theraclone Government Contracts or materially adversely affect the award of Government Contracts to Theraclone in the future. Theraclone has not received any written show cause, cure, deficiency, default or similar notice relating to any Theraclone Government Contracts; and Theraclone has not received any written notice terminating in whole or in part any of the Theraclone Government Contracts for convenience or default or indicating an intent to terminate in whole or in part any of the Theraclone Government Contracts for convenience or default, or declining to exercise an option to continue performance for a subsequent period.

(d) Theraclone has not received any written or, to the knowledge of Theraclone, oral, notice of any outstanding protests challenging the award of any Theraclone Government Contract, or Claims (as the term "Claim" is defined in FAR 2.101), or contract Disputes (as the term "Disputes" is used in the Contract Disputes Act of 1978, as amended, 41 U.S.C. 601 et. seq.) to which Theraclone is a party (i) arising under or relating to the Theraclone Government Contracts and involving either a Governmental Entity, any prime contractor, any higher-tier subcontractor, vendor or any third party; and (ii) arising under or relating to any Theraclone Government Contract under the Contract Disputes Act.

(e) Neither Theraclone nor its Principals (as defined at FAR 52.209-5), nor to the knowledge of Theraclone, their respective employees have ever been, or are now, suspended, debarred or proposed for suspension or debarred from bidding on any Government Contract, nor is there any circumstance that would require an affirmative certification under FAR 52.209-5. Theraclone has not received written notice of the commencement of any suspension or debarment actions with respect to Theraclone or any of its Principals or employees, nor, to the knowledge of Theraclone, has a Governmental Entity threatened to initiate a suspension or debarment action against Theraclone or any of its officers or employees. Theraclone has not received a negative determination of responsibility issued by a Governmental Entity against Theraclone since January 1, 2008 with respect to any quotation, bid or proposal for a Government Contract submitted by Theraclone.

(f) Since July 1, 2011, (i) no amount of money due to Theraclone pertaining to any Theraclone Government Contract has been withheld or set off, nor has any claim been made against Theraclone with respect to such amounts; (ii) no Theraclone Government Contract or task order has been performed at a loss, and no facts or circumstances currently exist that would reasonably be expected to cause Theraclone to incur a loss on any Theraclone Government Contract or task order; (iii) no cost incurred by Theraclone pertaining to any Theraclone Government Contract has been formally questioned, challenged or disallowed, or to the knowledge of Theraclone, is the subject of any investigation other than pursuant to a routine audit by a Governmental Entity, and Theraclone has not received any written notice challenging, questioning, proposing for disallowance, or disallowing any costs with respect to any Theraclone Government Contract that resulted in or may result in (x) repayment of amounts by Theraclone to any of its customers or (y) reductions in amounts that would otherwise reasonably have been expected to be paid to Theraclone by any of its customers pursuant to a Theraclone Government Contract; and (iv) Theraclone's cost accounting systems have complied in all material respects with applicable Cost Accounting Standards (as defined in FAR Chapter 99).

(g) Theraclone has submitted to the responsible Governmental Entity all forward pricing indirect cost rates to be bid, billed, and charged under Theraclone Government Contracts for the years prior to and including the fiscal year 2013 and incurred cost submissions with respect to cost reimbursable contracts for the years prior to and including the 2012 fiscal year. Within the past three years, no costs have been disallowed as expressly unallowable costs subject to penalties under FAR §31.110 and §42.709.

(h) Theraclone has not performed any activities under Theraclone Government Contracts, nor do any of them have any other relationship with any other person that could result in an "organizational conflict of interest" as defined in Subpart 9.5 of the Federal Acquisition Regulation and agency supplements thereto, and there is no organizational conflict of interest mitigation plan in effect that restricts the future business activities of Theraclone.

(i) Since January 1, 2008, Theraclone has not made any voluntary or mandatory disclosure in writing to any Governmental Entity with respect to any material alleged irregularity, misstatement or omission

arising under or relating to a Government Contract, and Theraclone has not failed to make any disclosure with respect to which such failure constitutes a ground for debarment.

(j) Theraclone is not required to maintain and possess facility clearances granted by any Governmental Entity to perform the Theraclone Government Contracts. Theraclone is not required to employ employees with personal security clearances to perform such Theraclone Government Contracts

(k) To the knowledge of Theraclone, none of Theraclone's employees, consultants or agents is (or during the last three years has been) under administrative, civil or criminal investigation or indictment by any Governmental Entity with respect to the conduct of Theraclone's business.

Section 3.24 Subsidiaries. Theraclone has no Subsidiaries and Theraclone neither directly nor indirectly, (a) owns or otherwise controls, (b) has agreed to purchase or otherwise acquire or (c) holds any interest convertible into or exchangeable for, any capital stock or other equity interest of any other corporation, partnership, joint venture or other business association or entity.

Section 3.25 Disclosure. No representation or warranty or other statement made by Theraclone in this Agreement, the Theraclone Disclosure Schedule, the certificates delivered pursuant to Section 7.3(d) or otherwise in connection with the transactions contemplated herein contains any untrue statement or, to Theraclone's knowledge, omits to state a material fact necessary to make any of them, in light of the circumstances in which it was made, not misleading.

## ARTICLE IV

## REPRESENTATIONS AND WARRANTIES OF PHARMATHENE AND MERGER SUB

Except as expressly set forth in (a) (i) PharmAthene's Annual Reports on Form 10-K, (ii) PharmAthene's Quarterly Reports on Form 10-Q, (iii) PharmAthene's Proxy Statements on Form DEF 14A, and (iv) PharmAthene's Current Reports on Form 8-K, in each case filed since January 1, 2010 and in each case including exhibits thereto (other than any predictive, cautionary or forward looking disclosures contained under the captions "Risk Factors," "Forward Looking Statements" or any similar precautionary sections and any other disclosures contained therein to the extent they are predictive, cautionary or forward looking in nature, but not to the extent that they consist of facts describing the current state of PharmAthene); or (b) the corresponding sections or subsections of the disclosure schedules delivered to Theraclone by PharmAthene in connection with this Agreement (the "PharmAthene Disclosure Schedule") (it being agreed (x) that disclosure of any item in any section or subsection of the PharmAthene Disclosure Schedule shall also be deemed disclosure with respect to any other section or subsection of this Agreement to which the relevance of such item is reasonably apparent on the face of such disclosure and (y) the exclusion in clause (a) above shall not apply to Section 4.3), PharmAthene and Merger Sub represent and warrant to Theraclone as follows:

Section 4.1 Qualification; Organization, Subsidiaries, etc.

(a) Each of PharmAthene and Merger Sub and their respective Subsidiaries is a legal entity validly existing and in good standing under the Laws of its respective jurisdiction of organization and has all requisite corporate or similar power and authority to own, lease and operate its properties and assets and to carry on its business as presently conducted and is qualified to do business and is in good standing as a foreign corporation in each jurisdiction where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where the failure to be so qualified or in good standing, or to have such power or authority has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

(b) PharmAthene has made available to Theraclone prior to the date of this Agreement a true and complete copy of the certificate of incorporation and bylaws or other equivalent organizational documents of PharmAthene and Merger Sub and each of their respective Subsidiaries, each as amended through the date of this Agreement. The certificate of incorporation and bylaws or similar organizational documents of PharmAthene and Merger Sub and each of their respective Subsidiaries are in full force and effect. None of PharmAthene, Merger Sub or any of their respective Subsidiaries is in violation of any provisions of its certificate of incorporation or bylaws or similar organizational documents, other than such violations as

have not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

(c) Section 4.1(c) of PharmAthene Disclosure Schedule lists, and PharmAthene has made available to Theraclone, accurate and complete copies of: (i) the charters of all committees of the Board of Directors of PharmAthene; (ii) any code of conduct or similar policy adopted by PharmAthene or by the Board of Directors, or any committee of the Board of Directors, of PharmAthene, each as in effect on the date hereof, and (iii) any Contracts relating to the nomination or election of PharmAthene directors (collectively, the "PharmAthene Board Charters and Policies"). PharmAthene has not taken any action in breach or violation of any of the provisions of the PharmAthene Board Charters and Policies nor is in breach or violation of any of the provisions of the PharmAthene Board Charters and Policies, except as would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

Section 4.2 Corporate Authority; No Violation.

(a) Each of PharmAthene and Merger Sub has the requisite corporate power and authority to enter into this Agreement and, subject to the PharmAthene Stockholder Approval, to consummate the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been duly and validly authorized by (a) the boards of directors of PharmAthene and Merger Sub, and except for (i) the PharmAthene Stockholder Approval, and the adoption (which PharmAthene shall cause to occur immediately following the execution and delivery of this Agreement) of this Agreement by PharmAthene, in its capacity as the sole stockholder of Merger Sub, (ii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware in respect of the Merger and (iii) any consents, authorizations, approvals, filings or exceptions in connections with compliance with the rules of NYSE MKT LLC with respect to the Merger and the PharmAthene Common Stock to be issued pursuant to the terms of this Agreement, no other corporate proceedings on the part of PharmAthene and Merger Sub are necessary to authorize this Agreement or the consummation of the transactions contemplated hereby. The PharmAthene Board of Directors, at a meeting duly called and held, has by unanimous vote of all of its members duly adopted resolutions (1) determining that it is in the best interests of PharmAthene and its stockholders, and declared it advisable, to enter into this Agreement and the PharmAthene Charter Amendment, (2) approving this Agreement and the PharmAthene Charter Amendment and authorizing the execution, delivery and performance of this Agreement, the PharmAthene Charter Amendment and the consummation of the transactions contemplated hereby, including the Merger and the PharmAthene Charter Amendment, (3) directing that the PharmAthene Stockholder Approval Matters be submitted to a vote at a meeting of stockholders of PharmAthene and (4) recommending that stockholders of PharmAthene vote in favor of the PharmAthene Stockholder Approval Matters (the item set forth in clause (4) of this sentence, the "PharmAthene Recommendation"). This Agreement has been duly and validly executed and delivered by PharmAthene and Merger Sub and, assuming this Agreement constitutes the valid and binding agreement of Theraclone, this Agreement constitutes the valid and binding agreement of PharmAthene and Merger Sub, enforceable against each of PharmAthene and Merger Sub in accordance with its terms.

(b) Subject to the accuracy of the representations and warranties of Theraclone in Section 3.3(b), no authorization, consent, permit, action or approval of, or filing with, or notification to, any Governmental Entity is necessary, under applicable Law, for the consummation by PharmAthene or Merger Sub or any of their respective Subsidiaries of the transactions contemplated by this Agreement, except for such authorizations, consents, permits, actions, approvals, notifications or filings required under (i) the DGCL, (ii) the Securities Act, and (iii) the Exchange Act, and except for such authorizations, consents, permits, actions, approvals, notifications or filings that, if not obtained or made, would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

(c) The execution and delivery by PharmAthene and Merger Sub of this Agreement do not, and the consummation of the transactions contemplated hereby and compliance with the provisions of this Agreement will not (i) result in any violation of, or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, amendment, cancellation or acceleration of any

obligation or to the loss of a benefit under, any Contract to which PharmAthene, Merger Sub or any of their respective Subsidiaries is a party or any of their respective properties or other assets is subject, (ii) conflict with or result in any violation of any provision of the certificate of incorporation or bylaws or other equivalent organizational document, in each case as amended, of PharmAthene or Merger Sub or (iii) conflict with or violate any applicable Laws, other than, in the case of clauses (i) and (iii), any such violation, conflict, default, termination, amendment, cancellation, acceleration, right or loss that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

Section 4.3 Capital Stock.

(a) The authorized capital stock of PharmAthene consists of 100,000,000 shares of common stock with $0.0001 par value ("PharmAthene Common Stock"). As of July 26, 2013, (i) 52,310,913 shares of PharmAthene Common Stock were issued, which number includes (A) 52,310,913 shares of PharmAthene Common Stock issued and outstanding and (B) no shares of PharmAthene Common Stock held in treasury, (ii) 6,013,761 shares of PharmAthene Common Stock were reserved for issuance and issuable or otherwise deliverable under the PharmAthene, Inc. 2007 Long-Term Incentive Compensation Plan (the "PharmAthene Stock Incentive Plan"), and (iii) 5,620,128 shares of PharmAthene Common Stock were reserved for issuance under warrants. All outstanding shares of PharmAthene Common Stock, and all shares of PharmAthene Common Stock reserved for issuance as noted in the immediately preceding clause (ii), when issued in accordance with the respective terms thereof, are or will be duly authorized, validly issued, fully paid and nonassessable and not issued in violation of any preemptive rights, purchase option, call or right of first refusal rights.

(b) As of the date hereof, the authorized capital stock of Merger Sub consists of 1,000 shares of common stock, par value $0.0001 per share, of which 100 are validly issued and outstanding and all of the issued and outstanding capital stock of Merger Sub is, and until the Effective Time will be, owned by PharmAthene. Merger Sub will not have outstanding any option, warrant, right, or any other agreement pursuant to which any person may acquire any equity security of Merger Sub. Merger Sub has not conducted any business prior to the date of this Agreement and prior to the Effective Time, will have no assets, liabilities or obligations of any nature other than those incident to its formation and pursuant to this Agreement and the Merger and the other transactions contemplated by this Agreement.

(c) Except as set forth in subsection (a) above, as of the date of this Agreement, (i) PharmAthene does not have any shares of its capital stock issued or outstanding other than shares of PharmAthene Common Stock that have become outstanding after July 26, 2013, and were reserved for issuance as set forth in subsection (a) above and (ii) there are no outstanding subscriptions, options, stock appreciation rights, warrants, calls, convertible securities, restricted stock units, performance units, deferred stock units or other similar rights, agreements or commitments relating to the issuance of capital stock or voting securities to which PharmAthene or any of its Subsidiaries is a party obligating PharmAthene or any of its Subsidiaries to (A) issue, transfer or sell any shares of capital stock or other equity interests of PharmAthene or any Subsidiary of PharmAthene or securities convertible into or exchangeable for such shares or equity interests, (B) grant, extend or enter into any such subscription, option, stock appreciation right, warrant, call, convertible securities, restricted stock units, performance units, deferred stock units or other similar right, agreement or arrangement, (C) redeem or otherwise acquire, or vote or dispose of, any such shares of capital stock or other equity interests or (D) provide a material amount of funds to, or make any material investment (in the form of a loan, capital contribution or otherwise) in, any Subsidiary of PharmAthene.

(d) Except as set forth in subsection (a) above, neither PharmAthene nor any of its Subsidiaries has outstanding any bonds, debentures, notes or other obligations the holders of which have the right to vote (or are convertible into or exercisable for securities having the right to vote) with stockholders of PharmAthene on any matter.

(e) There are no voting trusts, proxies or other agreements or understandings to which PharmAthene or any of its Subsidiaries is a party with respect to the voting of the capital stock or other equity interests of PharmAthene or any of its Subsidiaries.

(f) All outstanding shares of capital stock of, or other equity interests in, each Subsidiary of PharmAthene are duly authorized, validly issued, fully paid and nonassessable and were not issued in violation of any preemptive or similar rights, purchase option, call or right of first refusal rights. All the outstanding shares of capital stock of, or other equity interests in, each Subsidiary of PharmAthene that are owned by PharmAthene or a Subsidiary of PharmAthene are free and clear of all Liens other than Permitted Liens.

(g) The PharmAthene Common Stock to be issued in the Merger will, when issued in accordance with the provisions of this Agreement be validly issued, fully paid and nonassessable.

Section 4.4 Reports and Financial Statements.

(a) PharmAthene has filed or furnished all forms, documents and reports required to be filed or furnished since January 1, 2008 by it with the SEC (the "PharmAthene SEC Documents"). As of their respective dates, or, if amended, as of the date of the last such amendment (excluding any amendments made after the date of this Agreement), the PharmAthene SEC Documents complied in all material respects with the requirements of the Securities Act and the Exchange Act, as the case may be, and the applicable rules and regulations promulgated thereunder, and none of the PharmAthene SEC Documents contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. To the knowledge of PharmAthene, none of the PharmAthene SEC Documents is the subject of any outstanding SEC comments or outstanding SEC investigation. No Subsidiary of PharmAthene is required to file any form or report with the SEC. PharmAthene has made available to Theraclone all material correspondence (if such correspondence has occurred since January 1, 2008) between the SEC on the one hand, and PharmAthene and any of its Subsidiaries, on the other hand received by PharmAthene prior to the date of this Agreement. The certifications and statements required by (A) Rule 13a-14 under the Exchange Act and (B) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the PharmAthene SEC Documents (collectively, the "Certifications") are accurate and complete and comply as to form and content with all applicable Law. As used in this Section 4.4, the term "file" and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the SEC.

(b) The consolidated financial statements (including all related notes and schedules) of PharmAthene included in PharmAthene SEC Documents fairly present in all material respects the consolidated financial position of PharmAthene and its consolidated Subsidiaries, as at the respective dates thereof, and the consolidated results of their operations and their consolidated cash flows for the respective periods then ended (subject, in the case of the unaudited statements, to normal year-end audit adjustments and to any other adjustments described therein, including the notes thereto) in each case in accordance with GAAP (except, in the case of the unaudited statements, as permitted by the SEC) applied on a consistent basis during the periods involved (except as may be indicated therein or in the notes thereto).

(c) Except as noted in Section 4.4(c) of the PharmAthene Disclosure Schedule, PharmAthene is in compliance with all applicable NYSE MKT LLC listing rules and requirements and continued listing standards, and, to PharmAthene's knowledge, there are no facts that cause or could reasonably be expected to cause PharmAthene to be non-compliant with any applicable NYSE MKT LLC listing rules and requirements and continued listing standards.

(d) PharmAthene auditor has at all times since the date of enactment of the Sarbanes-Oxley Act been: (i) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act); (ii) to the knowledge of the PharmAthene, "independent" with respect to the PharmAthene within the meaning of Regulation S-X under the Exchange Act; and (iii) to the knowledge of the PharmAthene, in compliance with subsections (g) through (l) of Section 10A of the Exchange Act and the rules and regulations promulgated by the SEC and the Public Company Accounting Oversight Board thereunder.

(e) Since January 1, 2008, there have been no formal internal investigations regarding financial reporting or accounting policies and practices discussed with, reviewed by or initiated at the direction of the chief executive officer or chief financial officer of PharmAthene, the Board of Directors of

PharmAthene or any committee thereof, other than ordinary course audits or reviews of accounting policies and practices or internal controls required by the Sarbanes-Oxley Act. Since January 1, 2008, neither PharmAthene nor its independent auditors have identified (i) any significant deficiency or material weakness in the system of internal accounting controls utilized by PharmAthene, (ii) any fraud, whether or not material, that involves PharmAthene's management or other employees who have a role in the preparation of financial statements or the internal accounting controls utilized by PharmAthene or (iii) any claim or allegation regarding any of the foregoing.

Section 4.5 Internal Controls and Procedures. PharmAthene has established and maintains disclosure controls and procedures and internal control over financial reporting (as such terms are defined in paragraphs (e) and (f), respectively, of Rule 13a-15 under the Exchange Act) as required by Rule 13a-15 under the Exchange Act. PharmAthene's disclosure controls and procedures are reasonably designed to provide reasonable assurance that all material information required to be disclosed by PharmAthene in the reports that it files or furnishes under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC, and that all such material information is accumulated and communicated to PharmAthene's management as appropriate to allow timely decisions regarding required disclosure and to make the certifications required pursuant to sections 302 and 906 of the Sarbanes-Oxley Act. PharmAthene's management has completed assessment of the effectiveness of PharmAthene's internal control over financial reporting in compliance with the requirements of 404 of the Sarbanes-Oxley Act for the year ended December 30, 2012, and such assessment concluded that such controls were effective. PharmAthene has disclosed, based on its most recent evaluation prior to the date of this Agreement, to PharmAthene's auditors and the audit committee of the PharmAthene Board of Directors and to Theraclone (A) any significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are reasonably likely to adversely affect in any material respect PharmAthene's ability to record, process, summarize and report financial information and (B) any fraud, whether or not material, that involves executive officers or employees who have a significant role in PharmAthene's internal controls over financial reporting. As of the date of this Agreement, to the knowledge of PharmAthene, PharmAthene has not identified any significant deficiencies or any material weaknesses in the design or operation of internal controls over financial reporting. There are no outstanding loans made by PharmAthene or any of its Subsidiaries to any executive officer (as defined in Rule 3b-7 under the Exchange Act) or director of PharmAthene.

Section 4.6 No Undisclosed Liabilities. Except (a) as reflected or reserved against in PharmAthene's consolidated balance sheets (or the notes thereto) included in the PharmAthene SEC Documents, (b) as are incurred after the date of this Agreement and are permitted to be incurred by this Agreement or are incurred as a result of the transactions contemplated by this Agreement (e.g., attorneys' fees), (c) for liabilities and obligations incurred in the ordinary course of business consistent with past practice since December 31, 2012, that would not reasonably be expected, individually or in the aggregate, to have a PharmAthene Material Adverse Effect and (d) liabilities or obligations that have been discharged or paid in full in the ordinary course of business, as of the date of this Agreement, neither PharmAthene nor any Subsidiary of PharmAthene have and since March 31, 2013 have not incurred any liabilities or obligations of any nature whatsoever, whether or not accrued, absolute, matured, determined, contingent or otherwise, and whether or not required by GAAP to be reflected on a consolidated balance sheet of PharmAthene and its Subsidiaries (or in the notes thereto), other than those that have not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

Section 4.7 Compliance with Law; Permits.

(a) PharmAthene and each of its Subsidiaries are, and at all times since January 1, 2008 have been, in compliance with and not in default under or in violation of Law, except (i) with respect to any Drug Laws, which are addressed in Section 4.21 and (ii) for any such non-compliance, default or violation that would not, reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

(b) PharmAthene and its Subsidiaries are in possession of all franchises, grants, authorizations, licenses, permits, easements, variances, exceptions, consents, certificates, approvals and orders of any Governmental Entity necessary for PharmAthene and its Subsidiaries to own, lease and operate their

properties and assets or to carry on their businesses as they are now being conducted (the "PharmAthene Permits"), except for any failure to have any of the PharmAthene Permits that have not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. All PharmAthene Permits are in full force and effect, except for any failure to be in full force and effect that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

Section 4.8 Environmental Laws and Regulations. Except as has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect, (i) PharmAthene has conducted its businesses in compliance with all applicable Environmental Laws, (ii) to the knowledge of PharmAthene, none of the properties leased or operated by PharmAthene contains any Hazardous Substance in amounts which would reasonably be expected to give rise to liability under Environmental Laws, (iii) since January 1, 2008, PharmAthene has not received any written notice, demand letter or written request for information from any Governmental Entity indicating that PharmAthene or any person whose liability PharmAthene has retained or assumed, either contractually or by operation of law, may be in violation of, or liable under, any Environmental Law, (iv) to the knowledge of PharmAthene, no Hazardous Substance has been disposed of, released or transported in violation of any applicable Environmental Law, or in a manner which has given rise to any liability under Environmental Law, from any properties presently or formerly owned, leased or operated by PharmAthene or any other property and (v) neither PharmAthene nor any of its properties or any person whose liability PharmAthene has retained or assumed, either contractually or by operation of law, is subject to any liabilities relating to any pending or, to the knowledge of PharmAthene, threatened suit, settlement, court order, administrative order, regulatory requirement, judgment or written claim asserted or arising under any Environmental Law.

Section 4.9 Employee Benefit Plans.

(a) Section 4.9(a) of the PharmAthene Disclosure Schedule sets forth a true and complete list of each benefit plan, arrangement, agreement, program, practice, and policy, including each employee welfare benefit plan (including post-retirement health and insurance plan) within the meaning of section 3(1) of ERISA, each employee pension benefit plan within the meaning of section 3(2) of ERISA, and each bonus, incentive, deferred compensation, profit-sharing, savings, retirement, vacation, sick leave, share purchase, incentive compensation, equity or equity-based, severance, retention, employment (other than employment agreements that are terminable at-will without notice or without liability), consulting, change of control, fringe benefit, and employee loan plan, arrangement, agreement, program, practice, and policy, whether written or unwritten (the "PharmAthene Benefit Plans"), in each case that is sponsored, maintained, or contributed to, or required to be maintained or contributed to, by PharmAthene or any of its Subsidiaries, or to which PharmAthene or any person or entity that, together with PharmAthene, is treated as a single employer under section 414 of the Code (a "PharmAthene Commonly Controlled Entity"), has any direct or indirect liability, contingent or otherwise, for the benefit of any current or former director, officer, employee, consultant, or independent contractor of PharmAthene or any of its Subsidiaries.

(b) With respect to each material PharmAthene Benefit Plan, PharmAthene has made available to Theraclone complete and accurate copies of each of the following documents, as applicable: (i) such written PharmAthene Benefit Plan (including all amendments thereto) or a written description of any such PharmAthene Benefit Plan that is not otherwise in writing, (ii) the three most recent Annual Reports on IRS Form 5500 Series and accompanying schedules, if any, (iii) the most recent actuarial valuation report required to be filed under ERISA or required pursuant to applicable Laws or the terms of such PharmAthene Benefit Plan, (iv) a copy of the most recent SPD, together with all summaries of material modifications issued with respect to such SPD, if required under ERISA or required pursuant to applicable Laws or the terms of such PharmAthene Benefit Plan, (v) if such PharmAthene Benefit Plan is funded through a trust or any other funding vehicle, a copy of the trust or other funding agreement (including all material amendments thereto) and the latest financial statements thereof, if any, (vi) all contracts relating to such PharmAthene Benefit Plan with respect to which PharmAthene, any of its Subsidiaries, or any PharmAthene Commonly Controlled Entity may have any material liability, including insurance contracts, investment management agreements, subscription and participation agreements and record keeping

agreements, (vii) the most recent determination letter received from (or determination letter request submitted to) the IRS or the most recent master or prototype opinion letter issued by the IRS with respect to a master or prototype plan adopted by PharmAthene or any PharmAthene Commonly Controlled Entity upon which such sponsor is entitled to rely (if applicable) with respect to any PharmAthene Benefit Plan that is intended to be qualified under section 401(a) of the Code and (viii) communications (other than routine communications) from the IRS, the Department of Labor or the Pension Benefit Guaranty Corporation or any successor thereto with respect to any such PharmAthene Benefit Plan.

(c) (i) Each of the PharmAthene Benefit Plans (and any related trust or other funding vehicle) has been established and administered in compliance in all material respects with its terms and applicable Laws, including, but not limited to, ERISA and the Code and in each case the regulations thereunder and (ii) with respect to each of the PharmAthene Benefit Plans intended to be "qualified" within the meaning of section 401(a) of the Code, either the IRS has issued a favorable determination or opinion letter that has not been revoked, or an application for a favorable determination or opinion letter was timely submitted to the IRS for which no final action has been taken by the IRS, or the plan is relying on a prototype or volume submitter letter, and, to the knowledge of PharmAthene there are no existing circumstances or events that have occurred that could reasonably be expected to adversely affect the qualified status of any such plan.

(d) Neither PharmAthene, any of its Subsidiaries, nor any PharmAthene Commonly Controlled Entity has during the period beginning with the sixth plan year preceding the plan year that includes the Effective Time ever sponsored, maintained, contributed to, or been required to maintain or contribute to, or has any actual or contingent liability under any employee benefit plan subject to Title IV or section 302 of ERISA or sections 412 or 4971 of the Code, or any "multiemployer pension plan" (as such term is defined in section 3(37) of ERISA), and neither PharmAthene nor any PharmAthene Commonly Controlled Entity has incurred any withdrawal liability which remains unsatisfied, and to the knowledge of PharmAthene, no events have occurred and no circumstances exist that could reasonably be expected to result in any such liability to PharmAthene or any of its Subsidiaries.

(e) All material contributions and other amounts payable by PharmAthene or its Subsidiaries as of the date of this Agreement with respect to each PharmAthene Benefit Plan in respect of any plan year during the period beginning with the sixth plan year preceding the plan year that includes the Effective Time have been paid or, if not yet due have been properly accrued in accordance with GAAP in all material respects. Neither PharmAthene nor any of its Subsidiaries has engaged in a transaction in connection with which PharmAthene or any of its Subsidiaries became, or could reasonably be expected to become, subject to either a material civil penalty assessed pursuant to sections 409 or 502(i) of ERISA or a material Tax imposed pursuant to sections 4975 or 4976 of the Code. There are no material pending or, to the knowledge of PharmAthene, threatened claims (other than routine claims for benefits) by, on behalf of or against any of the PharmAthene Benefit Plans or any trusts related thereto.

(f) Neither the execution and delivery of this Agreement nor the consummation of the transactions contemplated hereby (either alone or in conjunction with any other event, including any termination of employment at or following the Effective Time) will (i) cause any material payment (including, without limitation, severance, unemployment compensation, change in control payment, "excess parachute payment" (within the meaning of section 280G of the Code), forgiveness of indebtedness, or other compensation or benefits) to become due to any current or former director, officer, employee, consultant, or independent contractor of PharmAthene or any of its Subsidiaries from PharmAthene or any PharmAthene Commonly Controlled Entity under any PharmAthene Benefit Plan or otherwise (other than amounts payable to any such person in his or her capacity as an equityholder of PharmAthene), (ii) materially increase any benefits otherwise payable under any PharmAthene Benefit Plan, (iii) result in any acceleration of the time of payment or vesting of any such benefits, (iv) require the funding of any such benefits, (v) result in any breach or violation of or default under, or limit (except as may be specifically set forth in this Agreement) PharmAthene's right to amend, modify, or terminate any collective bargaining agreement or PharmAthene Benefit Plan, or (vi) result in the payment of any amount that would, individually or in combination with any other such payment, not be deductible as a result of section 280G of the Code. Section 4.9(f) of the PharmAthene Disclosure Schedule sets forth, as of the

date hereof, individuals the Company reasonably believes are "disqualified individuals" within the meaning of Section 280G of the Code and the Regulations thereunder.

(g) All PharmAthene Stock Options have an exercise price per share that was not less than the "fair market value" of one share of PharmAthene Common Stock on the date of grant. All PharmAthene Stock Options have been properly accounted for in accordance with GAAP in all material respects, and no change is expected in respect of any prior financial statements relating to expenses for stock-based compensation. There is no pending audit, investigation or inquiry by any Governmental Entity or by PharmAthene (directly or indirectly) with respect to PharmAthene Stock Option granting practices or other equity compensation practices. The grant date of each PharmAthene Stock Option is on or after the date on which such grant was authorized by PharmAthene board of directors or the compensation committee thereof.

(h) Each PharmAthene Benefit Plan that is a "nonqualified deferred compensation plan" (as defined in section 409A(d)(1) of the Code) subject to section 409A of the Code has been operated since January 1, 2005 in good faith compliance with section 409A of the Code and the regulations and guidance promulgated thereunder.

(i) No PharmAthene Benefit Plan provides benefits, including death or medical, health, or other welfare benefits (whether or not insured), with respect to current or former directors, officers, employees, consultants, or independent contractors of PharmAthene, its Subsidiaries, or any PharmAthene Commonly Controlled Entity after retirement or other termination of service other than (i) coverage mandated by applicable Laws (including continuation coverage under section 4980B of the Code), (ii) death benefits or retirement benefits under any "employee pension benefit plan," as such term is defined in section 3(2) of ERISA, (iii) deferred compensation benefits accrued as liabilities on the books of PharmAthene, any of its Subsidiaries, or a PharmAthene Commonly Controlled Entity or (iv) benefits the full direct cost of which is borne by the current or former employee (or beneficiary thereof), and no circumstances exist that would reasonably be expected to cause PharmAthene, any of its Subsidiaries, or a PharmAthene Commonly Controlled Entity to become obligated to provide any such benefits.

(j) Except as set forth in Schedule 4.9(j) of the PharmAthene Disclosure Schedule, no PharmAthene Benefit Plan is subject to the laws of any jurisdiction outside of the United States.

Section 4.10 Absence of Certain Changes or Events. From March 31, 2013 to the date hereof, (i) the businesses of PharmAthene and its Subsidiaries have been conducted in all material respects in the ordinary course of business consistent with past practice and (ii) there has not been any change, effect, event, development, occurrence or state of facts that has had, or would reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

Section 4.11 Investigations; Litigation. Except with respect to any Drug Laws, which are addressed in Section 4.21(a), and as disclosed on Schedule 4.11, there are no (a) investigations or reviews pending (or, to the knowledge of PharmAthene, threatened) by any Governmental Entity with respect to PharmAthene or any of its Subsidiaries nor (b) any actions, suits, arbitrations, mediations, or proceedings pending (or, to PharmAthene's knowledge, threatened) against PharmAthene or any of its Subsidiaries, or any of their respective properties at law or in equity before, and there are no orders, judgments or decrees of, or before, any Governmental Entity, in the case of each of clause (a) or (b), which have had or would reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

Section 4.12 Proxy Statement; Other Information. Assuming the accuracy of the representations made by Theraclone in Section 3.11, the Proxy Statement will not, at the time of the mailing of the Proxy Statement or any amendments or supplements thereto or at the time of the PharmAthene Meeting, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. Assuming the accuracy of the representations made by Theraclone in Section 3.11, the Form S-4 Registration Statement will not, at the time the Form S-4 Registration Statement is filed with the SEC or at the time it becomes effective under the Securities Act, contain any untrue statement of a material fact or omit to state any

material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

Section 4.13 Tax Matters.

(a) (i) PharmAthene and each of its Subsidiaries have prepared in material compliance with the prescribed manner and filed within the time required by applicable Law (taking into account any extension of time within which to file) all material Tax Returns required to be filed by any of them with all relevant Governmental Entities for all taxation or fiscal periods ending prior to the date hereof, and all such Tax Returns are true, correct and complete in all material respects, (ii) PharmAthene and each of its Subsidiaries have fully and timely paid all material Taxes shown thereon as owing and all material Taxes otherwise owed by or with respect to PharmAthene or any of its Subsidiaries within the time required by applicable Law, (iii) the financial statements included in the PharmAthene SEC Documents reflect adequate reserves for all material unpaid Taxes payable by PharmAthene and its Subsidiaries for all taxable periods and portions thereof through the date of such financial statements and neither PharmAthene nor any of its Subsidiaries has incurred any material Tax liability since the date of such financial statements other than for Taxes arising in the ordinary course of business and (iv) as of the date of this Agreement, there are not pending or, to the knowledge of PharmAthene, threatened, any audits, examinations, assessments, reassessments or other proceedings in respect of Taxes (except, in the case of clause (i), (ii) or (iv) above, with respect to matters contested in good faith and for which adequate reserves have been established in accordance with GAAP).

(b) There are no waivers of any statute of limitations in respect of assessment or collection of Taxes or any agreements or requests for an extension of time for assessment or collection of any Tax, which waiver or extension is currently effective.

(c) None of PharmAthene or any of its Subsidiaries is a party to any agreement relating to Tax allocation, Tax indemnification or Tax sharing (other than any such agreements solely among PharmAthene and any of its Subsidiaries) and none of PharmAthene or any of its Subsidiaries has any liability for Taxes of any person (other than members of the affiliated group, within the meaning of section 1504(a) of the Code, filing consolidated federal income tax returns of which PharmAthene is the common parent) under Treasury Regulation section 1.1502-6, Treasury Regulation section 1.1502-78 or any similar state, local or non-U.S. Laws, as a transferee or successor, or otherwise.

(d) No claim in writing has been made against PharmAthene or any of its Subsidiaries by any Governmental Entity in a jurisdiction where PharmAthene and its Subsidiaries do not file Tax Returns that PharmAthene or such Subsidiary is or may be subject to taxation by that jurisdiction. All deficiencies for Taxes asserted or assessed in writing against PharmAthene or any of its Subsidiaries have been fully and timely paid, settled or properly reflected in the most recent financial statements contained in the PharmAthene SEC Documents.

(e) PharmAthene and its Subsidiaries have made available to Theraclone correct and complete copies of all material U.S. federal income Tax Returns, state income Tax apportionment data, examination reports and statements of deficiencies for which the applicable statutory periods of limitations have not yet expired.

(f) There are no material Liens for Taxes upon any of the assets of PharmAthene or any of its Subsidiaries, except for Permitted Liens.

(g) PharmAthene and its Subsidiaries have each withheld from their respective employees, independent contractors, creditors, stockholders and third parties, and timely paid or remitted to the appropriate Governmental Entity, proper and accurate amounts in all material respects for all periods ending on or before the Closing Date in compliance with all material Tax withholding and remitting provisions of applicable Law.

(h) Neither PharmAthene nor any of its Subsidiaries has constituted a “distributing corporation” or a “controlled corporation” (within the meaning of section 355(a)(1)(A) of the Code) in a distribution that

could constitute part of a "plan" or "series of related transactions" (within the meaning of section 355(e) of the Code) in conjunction with the transactions contemplated by this Agreement.

(i) Each of the closing agreements under section 7121 of the Code or any similar provision of state, local or non-U.S. Laws or full acceptance letters which PharmAthene or any of its Subsidiaries has executed, entered into or received is valid and enforceable in accordance with its terms. Neither PharmAthene nor any of its Subsidiaries has committed fraud, collusion, concealment or malfeasance or made a misrepresentation of material fact in connection with the execution or entering into of any closing agreement with, or the receipt of any full acceptance letter or private letter ruling from, any Governmental Entity.

(j) There is no taxable income of PharmAthene that will be required under any applicable Law to be reported in a taxable period beginning after the Closing Date which taxable income was realized (or reflects economic income) arising prior to the Closing Date as a result of any: (i) change in method of accounting for a taxable period ending on or prior to the Closing Date; (ii) "closing agreement" as described in section 7121 of the Code executed on or prior to the Closing Date; (iii) installment sale or open transaction disposition made on or prior to the Closing Date; or (iv) election under section 108(i) of the Code.

(k) Neither PharmAthene nor any of its Subsidiaries has ever participated in any reportable transaction within the meaning of Treasury Regulations section 1.6011-4(b) or taken any position on any Tax Return that would subject it to a substantial understatement of Tax penalty under section 6662 of the Code which has not been properly disclosed to the IRS as required by the Code and the Treasury Regulations promulgated thereunder.

(l) Neither PharmAthene nor any of its Subsidiaries has (A) been a "United States real property holding corporation," as defined in section 897(c)(2) of the Code, at any time during the past five years or made an election under section 897(i) of the Code to be treated as a domestic corporation for purposes of sections 897, 1445 and 6039C of the Code or (B) been a passive foreign investment company within the meaning of section 1297 of the Code.

(m) All related party transactions involving PharmAthene and its subsidiaries have been conducted at arm's length and in compliance with section 482 of the Code and the Treasury Regulations promulgated thereunder and any comparable provision of any state, local, or non-U.S. tax law.

(n) Neither PharmAthene nor any of its Subsidiaries has any knowledge of any fact, agreement, plan or other circumstance that would cause the Merger to fail to qualify as a reorganization within the meaning of section 368(a) of the Code.

(o) No employee, director, consultant or other service provider of PharmAthene or any of its Subsidiaries is entitled to receive any gross up payment from PharmAthene or any of its subsidiaries by reason of any taxes imposed by Section 4999 of the Code.

Section 4.14 Employee Relations Matters.

(a) Neither PharmAthene nor any of its Subsidiaries is a party to, or bound by, any collective bargaining agreement, contract or other agreement or understanding with a labor union, labor organization, trade union or works council. Neither PharmAthene nor any of its Subsidiaries has committed any material unfair labor practice as defined in the National Labor Relations Act or other applicable Laws. To the knowledge of PharmAthene, there are no organizational efforts with respect to the formation of a collective bargaining unit or, as of the date of this Agreement, labor union organizing activities being made or threatened involving employees of PharmAthene or any of its Subsidiaries.

(b) There are no pending or, to the knowledge of PharmAthene, threatened arbitrations, grievances, labor disputes, strikes, lockouts, slowdowns or work stoppages against PharmAthene or any of its Subsidiaries, nor to the knowledge of PharmAthene, has there been any of the foregoing that has had, or would reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

(c) PharmAthene and each of its Subsidiaries are and have been in compliance in all material respects with all applicable Laws respecting employment and employment practices, including all Laws respecting terms and conditions of employment, health and safety, wages and hours, child labor, immigration, employment discrimination, disability rights or benefits, equal opportunity, plant closures and layoffs, affirmative action, workers' compensation, labor relations, employee leave issues, employee classifications, and unemployment insurance. PharmAthene and each of its Subsidiaries are not in any material respect delinquent in payments to any employees or former employees for any services or amounts required to be reimbursed or otherwise paid. Neither PharmAthene nor any of its Subsidiaries is a party to, or otherwise bound by, any order of any Governmental Entity relating to employees or employment practices other than any ordinary course settlement with a Governmental Entity, in each case in an amount not more than $100,000 individually.

(d) Neither PharmAthene nor any of its Subsidiaries has received written notice of (i) any unfair labor practice charge or complaint pending or threatened before the National Labor Relations Board or any other Governmental Entity against it, (ii) any complaints, grievances or arbitrations against it arising out of any collective bargaining agreement, (iii) any charge or complaint with respect to or relating to it pending before the Equal Employment Opportunity Commission or any other Governmental Entity responsible for the prevention of unlawful employment practices, (iv) the intent of any Governmental Entity responsible for the enforcement of labor, employment, wages and hours of work, child labor, immigration, or occupational safety and health Laws to conduct an investigation with respect to or relating to them or such investigation is in progress or (v) any complaint, lawsuit or other proceeding pending or, to the knowledge of PharmAthene, threatened in any forum by or on behalf of any present or former employee of such entities, any applicant for employment or classes of the foregoing alleging breach of any express or implied contract of employment, any applicable Law governing employment or the termination thereof or other discriminatory, wrongful or tortious conduct in connection with the employment relationship, in each case, which has had or would reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect.

(e) Neither PharmAthene nor any of its Subsidiaries is currently engaged in any layoffs or employment terminations sufficient in number to trigger application of the WARN or any similar state, local or foreign Law. During the ninety (90) day period prior to the date of this Agreement, not more than thirty (30) employees of PharmAthene or its Subsidiaries were terminated from any single site of employment.

(f) As of the date of this Agreement, no PharmAthene Key Employee or any of its Subsidiaries has given written notice terminating employment with PharmAthene or any of its Subsidiaries, which termination will be effective on or after the date of this Agreement. For the purposes hereof ("PharmAthene Key Employee") means the persons set forth in Section 4.14(f) of the PharmAthene Disclosure Schedule.

Section 4.15 Intellectual Property.

(a) To the knowledge of PharmAthene, PharmAthene and its Subsidiaries own, license, sublicense or otherwise possess legally enforceable rights to use all Intellectual Property material to the conduct of the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted and as currently proposed to be conducted (in each case excluding generally commercially available, off-the-shelf software programs). PharmAthene's public filings described in the preamble to this Article IV set forth all of the PharmAthene's research and development programs and any other material programs.

(b) The execution and delivery of this Agreement by PharmAthene and the consummation of the Merger will not result in the breach of or loss of rights under, or create on behalf of any third party the right to terminate or modify, (i) any license, sublicense or other agreement relating to any Intellectual Property owned by PharmAthene or any of its Subsidiaries under which PharmAthene or any of its Subsidiaries has granted an exclusive license or which is otherwise material to the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted and as currently proposed to be conducted (the " PharmAthene Intellectual Property"), or (ii) any license, sublicense or other agreement to which PharmAthene or any of its Subsidiaries is a party and pursuant to which

PharmAthene or any of its Subsidiaries is authorized to use any third party's Intellectual Property on an exclusive basis or that is otherwise material to the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted and as currently proposed to be conducted, excluding generally commercially available, off-the-shelf software programs (the "PharmAthene Third Party Intellectual Property"). The execution and delivery of this Agreement by PharmAthene and the consummation of the Merger will not, as a result of any contract to which PharmAthene or any of its Subsidiaries is a party, result in PharmAthene, PharmAthene or any of PharmAthene's Subsidiaries granting to any third party any rights or licenses to any Intellectual Property or the release or disclosure of any trade secrets that would not have been granted or released absent such execution or consummation.

(c) Section 4.15(c) of the PharmAthene Disclosure Schedule sets forth a complete and accurate list of all U.S. and foreign issued patents and pending patent applications and registered trademarks, service marks, copyrights and domain names owned or co-owned by PharmAthene or any of its Subsidiaries material to the conduct of the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted and as currently proposed to be conducted. Section 4.15(c) of the PharmAthene Disclosure Schedule sets forth a complete and accurate list of all U.S. and foreign issued patents and pending patent applications and registered trademarks, service marks, copyrights and domain names material to the conduct of the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted and as currently proposed to be conducted, licensed to PharmAthene or any of its Subsidiaries, and Section 4.15(c) of the PharmAthene Disclosure Schedule sets forth a complete and accurate list of all other licenses to PharmAthene or any of its Subsidiaries of PharmAthene Intellectual Property or PharmAthene Third Party Intellectual Property.

(d) To the knowledge of PharmAthene, all items of Intellectual Property set forth in Section 4.15(c) of the PharmAthene Disclosure Schedule are subsisting and have not expired or been cancelled, all maintenance and renewal fees necessary to preserve such rights have been paid, and all such rights (other than such rights that are currently the subject of pending applications) are valid. PharmAthene and its Subsidiaries have implemented commercially reasonable measures to maintain the confidentiality of PharmAthene Intellectual Property of a nature that PharmAthene intends to keep confidential. To the knowledge of PharmAthene, no third party is infringing, violating or misappropriating any of the PharmAthene Intellectual Property or PharmAthene Third Party Intellectual Property, except for infringements, violations or misappropriations that, individually or in the aggregate, have not had, and would not be reasonably likely to have, a PharmAthene Material Adverse Effect.

(e) To the knowledge of PharmAthene, the conduct of the business of PharmAthene and its Subsidiaries as currently conducted and as currently proposed to be conducted does not infringe, violate, conflict with or constitute a misappropriation of any Intellectual Property of any third party. Since January 1, 2008, neither PharmAthene nor any of its Subsidiaries has received any written claim or notice alleging any such infringement, violation or misappropriation.

(f) All former and current employees, consultants and contractors of PharmAthene or its Subsidiaries who contribute or have contributed to the creation or development of any Intellectual Property for or on behalf of PharmAthene or any of its Subsidiaries material to the conduct of the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted and as currently proposed to be conducted, have executed written instruments that assign to PharmAthene or the relevant Subsidiary all right, title and interest in and to any such contributions.

(g) PharmAthene's and each of its Subsidiaries' collection, storage, use and dissemination of personally identifiable information is and since January 1, 2008, has been in compliance in all material respects with all applicable Law, including Laws relating to privacy, data security and data protection, and all applicable privacy policies and terms of use or other contractual obligations applicable thereto. Since January 1, 2008, there have been no written allegations or claims received by PharmAthene or any of its Subsidiaries from any Governmental Entity or any person of a breach of any such Laws, policies or obligations. To the knowledge of PharmAthene, since January 1, 2008, there have been no material losses or thefts of any such information.

Section 4.16 Real Property.

(a) Neither PharmAthene nor any Subsidiary of PharmAthene owns any real property.

(b) PharmAthene or a Subsidiary of PharmAthene has a good leasehold estate in each Real Property Leases, under which PharmAthene or a Subsidiary of PharmAthene is a tenant or a subtenant, in each case free and clear of all Liens and defects in title, other than Permitted Liens. Neither PharmAthene nor any Subsidiary of PharmAthene is in breach of or default under the terms of any Real Property Lease, except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. To the knowledge of PharmAthene, no other party to any Real Property Lease is in breach of or default under the terms of any Real Property Lease, which breach or default has had or would reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. Each Real Property Lease is a valid and binding obligation of PharmAthene or the Subsidiary of PharmAthene which is party thereto and, to the knowledge of PharmAthene, of each other party thereto, and is in full force and effect, except that (i) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, relating to creditors' rights generally and (ii) equitable remedies of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(c) PharmAthene's public filings described in the preamble to this Article IV set forth, as of the date of this Agreement, a true and complete list of all leases, subleases or similar agreements under which PharmAthene or a Subsidiary of PharmAthene is the landlord or the sublandlord (such leases, subleases and similar agreements, collectively, the "PharmAthene Real Property Subleases"). Neither PharmAthene nor any Subsidiary of PharmAthene is in breach of or default under the terms of any PharmAthene Real Property Sublease, except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. To the knowledge of PharmAthene, no other party to any PharmAthene Real Property Sublease is in breach of or default under the terms of any PharmAthene Real Property Sublease except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. Each PharmAthene Real Property Sublease is a valid and binding obligation of PharmAthene or the Subsidiary of PharmAthene which is party thereto and, to the knowledge of PharmAthene, of each other party thereto, and is in full force and effect, except that (i) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, relating to creditors' rights generally and (ii) equitable remedies of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

Section 4.17 Takeover Statutes. Assuming that neither Theraclone nor any of its "affiliates" or "associates" (as defined in section 203 of the DGCL) has been an "interested stockholder" (as defined in section 203 of the DGCL) at any time within three years prior to the date hereof, none of section 203 of the DGCL, any other state anti-takeover statute or regulation, or any takeover-related provision in the PharmAthene Certificate of Incorporation or PharmAthene Bylaws would prohibit or restrict the ability of PharmAthene to consummate the Merger or of the PharmAthene stockholders party to the PharmAthene Voting Agreement to perform their respective obligations thereunder.

Section 4.18 Material Contracts.

(a) Except as disclosed in Section 4.18 of the PharmAthene Disclosure Schedule, and except for this Agreement, neither PharmAthene nor any of its Subsidiaries is bound by any contract, arrangement, commitment or understanding:

(i) that constitutes a partnership, joint venture, technology sharing or similar agreement between PharmAthene or any of its Subsidiaries and any other person;

(ii) with respect to the service of any directors, officers, employees, or independent contractors or consultants that are natural persons, involving the payment of $100,000 or more in any 12 month

period, other than those that are terminable by PharmAthene or any of its Subsidiaries on no more than 30 days' notice without penalty;

(iii) that limits the ability of PharmAthene or any of its Subsidiaries to compete or enter into in any line of business, in any geographic area or with any person, in each case, which limitation or requirement would reasonably be expected to be material to PharmAthene and its Subsidiaries taken as a whole;

(iv) with or to a labor union, works council or guild (including any collective bargaining agreement or similar agreement);

(v) relating to the use or right to use Intellectual Property, including any license or royalty agreements, other than an agreement entered into in the ordinary course of business and that is not material to PharmAthene;

(vi) that provides for indemnification by PharmAthene to any person, other than an agreement entered into in the ordinary course of business and that is not material to PharmAthene;

(vii) between PharmAthene or any of its Subsidiaries and any current or former director or officer of PharmAthene or any of its Subsidiaries, or any affiliate of any such person (other than an PharmAthene Benefit Plan);

(viii) with respect to (A) Indebtedness, (B) any capital lease obligations to any person other than PharmAthene or any of its Subsidiaries, (C) any obligations to any person other than PharmAthene or any of its Subsidiaries in respect of letters of credit and bankers' acceptances, (D) any indebtedness to any person other than PharmAthene or any of its Subsidiaries under interest rate swap, hedging or similar agreements, (E) any obligations to pay to any person other than PharmAthene or any of its Subsidiaries the deferred purchase price of property or services, (F) indebtedness secured by any Lien on any property owned by PharmAthene or any of its Subsidiaries even though the obligor has not assumed or otherwise become liable for the payment thereof, or (G) any guaranty of any such obligations described in clauses (A) through (F) of any person other than PharmAthene or any of its Subsidiaries, in each case, having an outstanding amount in excess of $100,000 individually or $250,000 in the aggregate;

(ix) that is material to PharmAthene or that contains any so called "most favored nation" provision or similar provisions requiring PharmAthene to offer to a person any terms or conditions that are at least as favorable as those offered to one or more other persons;

(x) pursuant to which any agent, sales representative, distributor or other third party markets or sells any PharmAthene Product;

(xi) pursuant to which PharmAthene or any Subsidiary is a party granting rights of first refusal, rights of first offer or similar rights to acquire any business or assets of the PharmAthene or any Subsidiary;

(xii) relating to the purchase or sale of assets outside the ordinary course of business of PharmAthene;

(xiii) relating to the issuance of any securities of PharmAthene or any Subsidiary;

(xiv) pursuant to which any material asset of PharmAthene or any of its Subsidiaries is leased;

(xv) relates to the purchase of (A) any equipment entered into since December 31, 2012 and (B) any materials, supplies, or inventory since December 31, 2012, other than any agreement which, together with any other related agreement, involves the expenditure by the PharmAthene of less than $100,000;

(xvi) that represents a purchase order with any supplier for the purchase of inventory items in an amount in excess of $100,000 of materials;

(xvii) pursuant to which PharmAthene or any Subsidiary is a party and having a remaining term of more than one (1) year after the date hereof or involving a remaining amount payable thereunder (either to or from PharmAthene) as of the date hereof, of at least $100,000;

(xviii) that involves the payment of $250,000 or more in any 12-month period after the date hereof; or

(xix) that would prevent, delay or impede the consummation, or otherwise reduce the contemplated benefits, of any of the transactions contemplated by this Agreement.

PharmAthene has previously made available to PharmAthene or its representatives complete and accurate copies of each Contract of the type described in this Section 4.18(a) (collectively referred to herein as "PharmAthene Material Contracts").

(b) All of the PharmAthene Material Contracts were entered into at arms' length in the ordinary course of business and are valid and in full force and effect, except to the extent they have previously expired in accordance with their terms. Neither PharmAthene nor any of its Subsidiaries has given or received a notice of cancellation or termination under any PharmAthene Material Contract, or has, or is alleged to have, and to the knowledge of PharmAthene, none of the other parties thereto have, violated any provision of, or committed or failed to perform any act, and no event or condition exists, which with or without notice, lapse of time or both would constitute a default under the provisions of, any PharmAthene Material Contract.

(c) Neither PharmAthene nor any Subsidiary of PharmAthene is in breach of or default under the terms of any PharmAthene Material Contract, except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. To the knowledge of PharmAthene, no other party to any PharmAthene Material Contract is in breach of or default under the terms of any PharmAthene Material Contract except for any such breach or default that has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. Each PharmAthene Material Contract is a valid and binding obligation of PharmAthene or the Subsidiary of PharmAthene which is party thereto and, to the knowledge of PharmAthene, of each other party thereto, and is in full force and effect, except that (i) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, relating to creditors' rights generally and (ii) equitable remedies of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

Section 4.19 Insurance. PharmAthene and its Subsidiaries own or hold policies of insurance in amounts that PharmAthene has determined in good faith provide reasonably adequate coverage for its business and in amounts sufficient to comply with (i) applicable Law and (ii) all PharmAthene Material Contracts to which PharmAthene or any of its Subsidiaries are parties or are otherwise bound.

Section 4.20 Affiliate Transactions. There are no transactions, agreements or arrangements between (i) PharmAthene or any of its Subsidiaries on the one hand, and (ii) any director, executive officer or affiliate of PharmAthene (other than any of its Subsidiaries) or any of their respective affiliates or immediate family members, on the other hand, of the type that would be required to be disclosed under Item 404 of Regulation S-K under the Securities Act (such transactions referred to herein as "PharmAthene Affiliate Transactions").

Section 4.21 Food And Drug Administration Matters.

(a) PharmAthene and its Subsidiaries are not in violation of the FDCA, the PHSA, or the Drug Laws applicable to their activities, including those relating to GLP, good clinical practices, adverse event reporting, good manufacturing practices, recordkeeping, user fees, clinical trial registries, and filing of reports, except for such violations that would not, individually or in the aggregate, reasonably be expected to have a PharmAthene Material Adverse Effect. PharmAthene and its Subsidiaries have not received any written notice or other written communication from the FDA or any other Governmental Entity alleging any violation of any Drug Law, including any failure to maintain systems and programs adequate to

ensure compliance with any applicable Law related to product quality, including "Good Manufacturing Practice," "Good Laboratory Practice," and "Good Clinical Practice" as those terms are defined by the FDA and in all applicable Drug Laws, by PharmAthene or any of its Subsidiaries relating to any activity that is subject to Drug Laws. Neither PharmAthene nor any of its Subsidiaries, nor, to the knowledge of PharmAthene, any third party acting on behalf of PharmAthene, has received any (i) notices of inspectional observations (including those recorded on form FDA 483), warning letters, untitled letters from the FDA or any other Governmental Entity, (ii) notice of any intention to conduct an investigation or review from the FDA or any other Governmental Entity, or (iii) other written documents issued by the FDA or any other Governmental Entity that indicate lack of compliance with any Drug Law by PharmAthene or its Subsidiaries or by persons who are otherwise performing services for the benefit of PharmAthene or its Subsidiaries. To PharmAthene's knowledge, no third party acting on behalf of PharmAthene is subject to any regulatory restriction that would affect the development of PharmAthene products.

(b) PharmAthene and its Subsidiaries have all Authorizations from Governmental Entities that are material to the conduct of the business of PharmAthene and its Subsidiaries, taken as a whole, as currently conducted, and such Authorizations are in full force and effect in all material respects. PharmAthene and its Subsidiaries have filed all material reports, notifications and filings with, and have paid all material regulatory fees to, the applicable Governmental Entity necessary to maintain all of such Authorizations in full force and effect. PharmAthene and its Subsidiaries are, and have been, in compliance in all material respects with the terms of all Authorizations. Neither PharmAthene nor its Subsidiaries have received written notice to the effect that a Governmental Entity was or is considering the amendment, termination, revocation or cancellation of any Authorization. The consummation of the Merger or any of the other transactions contemplated by this Agreement, in and of itself, will not cause the amendment, termination, revocation or cancellation of any material Authorization.

(c) All preclinical tests performed in connection with or as the basis for any submission to the FDA or other comparable Governmental Entity submitted by PharmAthene or its Subsidiaries or that PharmAthene or its Subsidiaries anticipate will be submitted to the FDA or other comparable Governmental Entity either (i) have been conducted in accordance, in all material respects, with applicable GLP requirements, including those contained in 21 C.F.R. Part 58 or (ii) involved experimental research techniques that were not required to be performed by a registered GLP testing laboratory (with appropriate notice being given to FDA or the applicable Governmental Entity, if required), but employed procedures and controls generally used by qualified experts in the conduct of preclinical studies.

(d) None of PharmAthene's product candidates ("PharmAthene Products") have received marketing approval from any Governmental Entity. All human clinical trials to the extent conducted by PharmAthene, its Subsidiaries, or to the knowledge of PharmAthene, by a third party on behalf of PharmAthene or its Subsidiaries, have been and are being conducted in compliance with all applicable requirements of "Good Clinical Practice," "Informed Consent" and, "Institutional Review Boards," as those terms are defined by the FDA and in all applicable Drug Laws relating to clinical trials or the protection of human subjects, including those contained in the International Conference on Harmonization E6: Good Clinical Practices Consolidated Guideline, and in 21 C.F.R. Parts 50, 54, 56, and 312, and the provisions governing the privacy of patient medical records under the Health Insurance Portability and Accountability Act of 1996 and the implementing regulations of the United States Department of Health and Human Services, and all applicable comparable foreign Drug Laws, except for such failures to be in compliance that would not, individually or in the aggregate, reasonably be expected to have a PharmAthene Material Adverse Effect. Neither PharmAthene, its Subsidiaries, nor to the knowledge of PharmAthene, anyone acting on behalf of PharmAthene, has received any written notice that the FDA or any other Governmental Entity or institutional review board has initiated, or threatened to initiate, any clinical hold or other action to suspend any clinical trial or suspend or terminate any IND (or foreign equivalent thereto) sponsored by PharmAthene or its Subsidiaries, or otherwise restrict the preclinical research on or clinical study of any PharmAthene Product.

(e) All clinical trials conducted by or on behalf of PharmAthene or its Subsidiaries and the results of all such clinical trials have been registered and disclosed in all material respects in accordance with all

applicable Drug Laws. PharmAthene and its Subsidiaries have filed all annual and periodic reports, amendments and IND Safety Reports required for any PharmAthene Product required to be made to the FDA or any other Governmental Entity, except for such failures to file that would not, individually or in the aggregate, reasonably be expected to have a PharmAthene Material Adverse Effect.

(f) All manufacturing operations conducted by PharmAthene, its Subsidiaries, or, to the knowledge of PharmAthene, for the benefit of, PharmAthene or its Subsidiaries with respect to PharmAthene Products have been and are being conducted in accordance, in all material respects, with applicable current Good Manufacturing Practices as that term is defined by the FDA and in all applicable Drug Laws, and to the knowledge of PharmAthene, there are no material quality control or assurance issues with respect thereto.

(g) There are no proceedings pending or, to the knowledge of PharmAthene, threatened against PharmAthene or its Subsidiaries with respect to (i) a violation by PharmAthene or its Subsidiaries of any Drug Law, or (ii) any alleged injuries to a participant in any clinical trial conducted by or on behalf of PharmAthene or its Subsidiaries.

(h) PharmAthene has provided or made available to Theraclone reports of all material preclinical and material clinical studies and trials conducted by PharmAthene, regarding the efficacy and safety of SparVax™ and Valortim, going back five years for SparVax™ and two years for Valortim®, and its Subsidiaries or by a third party on behalf of PharmAthene or its Subsidiaries regarding the efficacy and safety of any of its product candidates.

(i) PharmAthene has delivered or made available to Theraclone all material correspondence and material meeting minutes received from or sent to the FDA and any other similar Governmental Entity, and all material written reports of phone conversations, visits or other contact with the FDA and any other similar Governmental Entity, relating to any PharmAthene Product or to compliance with any Drug Law, including any and all notices of inspectional observations, and any other documents received by PharmAthene and its Subsidiaries from the FDA or comparable foreign Governmental Entities which bear in any material way on PharmAthene's and its Subsidiaries' compliance with regulatory requirements of the FDA or comparable foreign Governmental Entities, or on the likelihood or timing of approval of any PharmAthene Product.

(j) None of PharmAthene, its Subsidiaries, or any officer, employee or, to the knowledge of PharmAthene, agent of PharmAthene or its Subsidiaries, has made an untrue statement of a material fact or fraudulent statement to the FDA or any other Governmental Entity, failed to disclose a material fact required to be disclosed to the FDA or any other Governmental Entity, or committed any act, made any statement, or failed to make any statement, that would reasonably be expected to provide a basis for the FDA to invoke its policy respecting "Fraud, Untrue Statements of Material Fact, Bribery, and Illegal Gratuities," set forth in 56 Fed. Reg. 46191 (September 10, 1991). Neither PharmAthene, its Subsidiaries, nor, to the knowledge of PharmAthene, any officer, employee or agent of PharmAthene or its Subsidiaries has been convicted of any crime or engaged in any conduct that would reasonably be expected to result in or that has resulted in (i) debarment under 21 U.S.C. 335a or any similar state or federal Law or similar Law of a country other than the United States or (ii) exclusion from participating in the federal health care programs under 1128 of the Social Security Act or any similar state or federal Law or similar Law of a country other than the United States.

Section 4.22 Government Contracts.

(a) PharmAthene has delivered or made available to Theraclone complete and accurate copies of all PharmAthene Government Contracts. Each of the PharmAthene Government Contracts is valid, binding and in full force and effect, has been awarded to or novated to PharmAthene, and is enforceable in accordance with its terms by PharmAthene subject to the Governmental Entity's rights, including its right to terminate each such PharmAthene Government Contract for the convenience of the Governmental Entity. For the purposes of this Agreement, "PharmAthene Government Contract" means any Government Contract of PharmAthene or any of its Subsidiaries, the period of performance of which has not yet expired or terminated, or expired or terminated since January 1, 2008, or for which final payment has not yet been received or has been received since January 1, 2008. Notwithstanding the foregoing definition,

"PharmAthene Government Contracts" do not include contracts with all of the following characteristics: (i) no longer in effect, (ii) relate to products no longer offered by PharmAthene and which PharmAthene has no intent to further pursue, and (iii) no existing funding or proposal by PharmAthene for funding.

(b) PharmAthene and its Subsidiaries have complied in all material respects with all statutory and regulatory requirements, including the Armed Services Procurement Act, the Service Contract Act, the Procurement Integrity Act, the False Claims Act, the Buy American Act, the Trade Agreements Act, Executive Order No. 11246 and related regulations, the Truth in Negotiations Act, the Federal Procurement and Administrative Services Act, the Federal Acquisition Regulation, where and as applicable to each of the PharmAthene Government Contracts or to bids or proposals for Government Contracts submitted since January 1, 2008. The representations and certifications made by PharmAthene or its Subsidiaries with respect to such Government Contracts were accurate in all material respects as of their effective date and, to the extent that any such certifications are on-going, PharmAthene and its Subsidiaries have complied with all such certifications in all material respects. Except as set forth in Section 4.22(c) of the PharmAthene Disclosure Schedule, no annual past performance evaluation received by PharmAthene or its Subsidiaries, if any, with respect to any such PharmAthene Government Contract has set forth a default or other material failure to perform thereunder or termination thereof, or assigned a rating of less than satisfactory.

(c) With respect to the PharmAthene Government Contracts, no Governmental Entity, prime contractor or higher-tier subcontractor under a Government Contract or any other person has notified PharmAthene or any of its Subsidiaries in writing of any actual or alleged material violation or breach of any statute, regulation, representation, certification, disclosure obligation, contract term, condition, clause, provision or specification by PharmAthene or any of its Subsidiaries that would be reasonably expected to materially affect payments under any PharmAthene Government Contracts or materially adversely affect the award of Government Contracts to PharmAthene or any of its Subsidiaries in the future. Neither PharmAthene nor any of its Subsidiaries has received any written show cause, cure, deficiency, default or similar notice relating to any PharmAthene Government Contracts; and, except as set forth in Section 4.22(c) of the PharmAthene Disclosure Schedule, neither PharmAthene nor any of its Subsidiaries have received any written notice terminating in whole or in part any of the PharmAthene Government Contracts for convenience or default or indicating an intent to terminate in whole or in part any of the PharmAthene Government Contracts for convenience or default, or declining to exercise an option to continue performance for a subsequent period.

(d) PharmAthene and its Subsidiaries have not received any written or, to the knowledge of PharmAthene, oral, notice of any outstanding protests challenging the award of any PharmAthene Government Contract, or Claims (as the term "Claim" is defined in FAR 2.101), or contract Disputes (as the term "Disputes" is used in the Contract Disputes Act of 1978, as amended, 41 U.S.C. 601 et. seq.) to which PharmAthene or its Subsidiaries is a party (i) arising under or relating to the PharmAthene Government Contracts and involving either a Governmental Entity, any prime contractor, any higher-tier subcontractor, vendor or any third party; and (ii) arising under or relating to any PharmAthene Government Contract under the Contract Disputes Act.

(e) Neither PharmAthene, its Subsidiaries, nor their respective Principals (as defined at FAR 52.209-5), nor to the knowledge of PharmAthene, their respective employees have ever been, or are now, suspended, debarred or proposed for suspension or debarment from bidding on any Government Contract, nor is there any circumstance that would require an affirmative certification under FAR 52.209-5. PharmAthene and its Subsidiaries have not received written notice of the commencement of any suspension or debarment actions with respect to PharmAthene or any of its Subsidiaries, or any of their respective Principals or employees, nor, to the knowledge of PharmAthene, has a Governmental Entity threatened to initiate a suspension or debarment action against PharmAthene or its Subsidiaries or any of their officers or employees. PharmAthene and its Subsidiaries have not received a negative determination of responsibility issued by a Governmental Entity against PharmAthene or its Subsidiaries since January 1, 2008 with respect to any quotation, bid or proposal for a Government Contract submitted by PharmAthene or its Subsidiaries.

(f) Since July 1, 2011, (i) except for non-material amounts in the ordinary business, no amount of money due to PharmAthene or any of its Subsidiaries pertaining to any PharmAthene Government Contract has been withheld or set off, nor has any claim been made against PharmAthene or any of its Subsidiaries with respect to such amounts; (ii) no PharmAthene Government Contract or task order has been performed at a loss, and no facts or circumstances currently exist that would reasonably be expected to cause PharmAthene or any of its Subsidiaries to incur a loss on any PharmAthene Government Contract or task order; (iii) except for non-material amounts in the ordinary course of business, no cost incurred by PharmAthene or its Subsidiaries pertaining to any PharmAthene Government Contract has been formally questioned, challenged or disallowed, or to the knowledge of PharmAthene, is the subject of any investigation other than pursuant to a routine audit by a Governmental Entity, and, except for non-material amounts in the ordinary course of business, neither PharmAthene nor any of its Subsidiaries has received any written notice challenging, questioning, proposing for disallowance, or disallowing any costs with respect to any PharmAthene Government Contract that resulted in or may result in (x) repayment of amounts by PharmAthene or any of its Subsidiaries to any of its customers or (y) reductions in amounts that would otherwise reasonably have been expected to be paid to PharmAthene or any of its Subsidiaries by any of its customers pursuant to a PharmAthene Government Contract; and (iv) PharmAthene and its Subsidiaries' cost accounting systems have complied in all material respects with applicable Cost Accounting Standards (as defined in FAR Chapter 99).

(g) PharmAthene and its Subsidiaries have submitted to the responsible Governmental Entity all forward pricing indirect cost rates to be bid, billed, and charged under PharmAthene Government Contracts for the years prior to and including the fiscal year 2013 and incurred cost submissions with respect to cost reimbursable contracts for the years prior to and including the 2012 fiscal year. Within the past three years, no costs have been disallowed as expressly unallowable costs subject to penalties under FAR §31.110 and §42.709.

(h) Neither PharmAthene nor any of its Subsidiaries have performed any activities under PharmAthene Government Contracts, nor do any of them have any other relationship with any other person that could result in an "organizational conflict of interest" as defined in Subpart 9.5 of the Federal Acquisition Regulation and agency supplements thereto, and there is no organizational conflict of interest mitigation plan in effect that restricts the future business activities of PharmAthene or any of its Subsidiaries.

(i) Since January 1, 2008, neither PharmAthene nor any of its Subsidiaries have made any voluntary or mandatory disclosure in writing to any Governmental Entity with respect to any material alleged irregularity, misstatement or omission arising under or relating to a Government Contract, and neither PharmAthene nor any of its Subsidiaries has failed to make any disclosure with respect to which such failure constitutes a ground for debarment.

(j) PharmAthene and its Subsidiaries are not required to maintain and possess facility clearances granted by any Governmental Entity to perform the PharmAthene Government Contracts. PharmAthene and its Subsidiaries are not required to employ employees with personal security clearances to perform such PharmAthene Government Contracts.

(k) To the knowledge of PharmAthene, none of PharmAthene's or its Subsidiaries' employees, consultants or agents is (or during the last three years has been) under administrative, civil or criminal investigation or indictment by any Governmental Entity with respect to the conduct of PharmAthene's business.

Section 4.23 Subsidiaries. Section 4.23 of the PharmAthene Disclosure Schedule sets forth a true and complete list of all the Subsidiaries of PharmAthene. Each Subsidiary of PharmAthene is a corporation or other entity duly organized, validly existing and, in the case of corporations, in good standing under the laws of its jurisdiction of formation, has all requisite power and authority to own, lease and operate its properties and to carry on its business as now being conducted, and is duly qualified and in good standing to do business in each jurisdiction in which the nature of its business or the ownership or leasing of its properties makes such qualification necessary and where the failure so to qualify would have a material effect on PharmAthene. All of the shares of capital stock of each of the Subsidiaries held by PharmAthene or by another PharmAthene

Subsidiary are fully paid and non-assessable and are owned by PharmAthene or a Subsidiary of PharmAthene free and clear of any material Lien, except for PharmAthene Permitted Liens. Except for the Subsidiaries set forth in Section 4.23 of the PharmAthene Disclosure Schedule, PharmAthene neither directly nor indirectly, (a) owns or otherwise controls, (b) has agreed to purchase or otherwise acquire or (c) holds any interest convertible into or exchangeable for, any capital stock or other equity interest of any other corporation, partnership, joint venture or other business association or entity.

Section 4.24 Vote of PharmAthene Stockholders. Except for the approval ("PharmAthene Stockholder Approval") by the vote of holders of a majority of the outstanding shares of PharmAthene Common Stock in favor of (a) the issuance of the aggregate Merger Consideration, (b) the election of the PharmAthene Board Designees and the Theraclone Board Designees, (c) the amendment to the PharmAthene certificate of incorporation ("PharmAthene Charter Amendment") in the form attached hereto as Exhibit 5, and (d) the compensation payable to certain PharmAthene executives in connection with the Merger to the extent required by Rule 14a-21 under the Exchange Act (the matters in clauses (a), (b), (c), and (d) collectively, the "PharmAthene Stockholder Approval Matters"), no vote of the stockholders of PharmAthene or the holders of any other securities of PharmAthene (equity or otherwise) is required by any applicable Law, the certificate of incorporation or bylaws or other equivalent organizational documents of PharmAthene to consummate the transactions contemplated hereby.

Section 4.25 Finders or Brokers. Except as set forth in Section 4.25 of the Disclosure Schedule, neither PharmAthene nor any of its Subsidiaries has employed any investment banker, broker or finder in connection with the transactions contemplated by this Agreement who is entitled to any fee or any commission in connection with or upon consummation of the transactions contemplated hereby.

Section 4.26 Disclosure. No representation or warranty or other statement made by PharmAthene or Merger Sub in this Agreement, the PharmAthene Disclosure Schedule, the certificates delivered pursuant to Section 7.2(d) or otherwise in connection with the transactions contemplated herein contains any untrue statement or, to PharmAthene's knowledge, omits to state a material fact necessary to make any of them, in light of the circumstances in which it was made, not misleading.

## ARTICLE V

## INDEMNIFICATION

Section 5.1 Indemnification by Theraclone Stockholders. Subject to the terms and conditions set forth herein, each of the Theraclone Stockholders, solely from the Escrow Account and subject to the limitations set forth in Section 5.4 below, severally and not jointly, will indemnify and hold harmless PharmAthene and its directors, officers, stockholders, employees, agents, subsidiaries and affiliates (the "PharmAthene Indemnified Persons"), and will reimburse the PharmAthene Indemnified Persons for, any loss, liability, damage or expense, including reasonable out-of-pocket costs of investigation and defense of claims and reasonable attorneys' fees and expenses (collectively, "Losses") incurred by the PharmAthene Indemnified Persons arising or resulting from or in connection with any of the following:

(a) any breach of any representation or warranty made by Theraclone in Article III of this Agreement; or

(b) any breach of any covenant or agreement of Theraclone in Article VI of this Agreement.

All claims for indemnification under this Section 5.1 shall be administered by PharmAthene for itself and on behalf of all other PharmAthene Indemnified Persons. For purposes of this Article V, notwithstanding anything to the contrary contained herein, Losses shall not include, and no PharmAthene Indemnified Person shall be compensated or reduce the consideration payable hereunder for, any consequential damages of any PharmAthene Indemnified Person to the extent not reasonably foreseeable or any special, incidental or punitive damages of any PharmAthene Indemnified Person, but Losses shall include, and PharmAthene Indemnified Persons shall be compensated for, any consequential, special, incidental or punitive damages included in a claim asserted by any person who is not a PharmAthene Indemnified Person.

Section 5.2 No Indemnification by PharmAthene or the Surviving Subsidiary. Neither PharmAthene nor the Surviving Subsidiary shall have any obligation to indemnify the Theraclone Stockholders for any breach of any representation or warranty made by, or any covenant or agreement of, PharmAthene or the Merger Sub in this Agreement.

Section 5.3 Indemnification Limitation — Survival.

(a) All representations and warranties of Theraclone contained in this Agreement shall survive the Closing and shall continue in full force and effect until the date that is nine (9) months after the Closing Date (the "Indemnity Period"). All covenants and other obligations of Theraclone contained in this Agreement shall expire at the Closing, except those covenants or obligations that explicitly survive the Closing, which covenants and obligations shall continue in full force and effect until the earlier of such time as (i) such covenants or obligations expire, (ii) such covenants or obligations are fully performed and satisfied, or (iii) the expiration of the statute of limitations with respect to such covenants or obligations, in each case in accordance with the respective terms of such covenants and obligations set forth in this Agreement. The right to indemnification based upon such representations, warranties, covenants and obligations shall not be affected by any examination, inspection, audit, or other investigation conducted by PharmAthene with respect to, or any knowledge acquired at any time with respect to, the accuracy or inaccuracy of or compliance with any such representation, warrant, covenant or obligation, unless PharmAthene had such knowledge at the time of Closing.

(b) None of the representations, warranties, covenants, or agreements of PharmAthene or Merger Sub in this Agreement or in any document or instrument delivered pursuant to this Agreement shall survive the Merger or the termination of this Agreement.

Section 5.4 Indemnification Limitation — Deductible and Cap.

(a) No Theraclone Stockholder shall have any obligation to indemnify the PharmAthene Indemnified Persons under Section 5.1(a), and no such indemnification claims shall be brought against any Theraclone Stockholder, absent fraud or willful misconduct of Theraclone, unless the total of all such Losses for all claims for indemnification made by the PharmAthene Indemnified Persons under Section 5.1(a) exceeds $1,000,000 in the aggregate, in which event the Theraclone Stockholders shall be liable for all such Losses from the first dollar above $1,000,000 (the "Deductible").

(b) No Theraclone Stockholder shall have any obligation to indemnify the PharmAthene Indemnified Persons under Section 5.1(a), and no such indemnification claims shall be brought against any Theraclone Stockholder, absent fraud or willful misconduct of Theraclone, for an amount of Losses incurred by the PharmAthene Indemnified Persons in excess of such Theraclone Stockholder's Pro Rata Share of the Escrow Shares (such aggregate amount, the "Indemnification Cap"). It is understood and agreed by the parties that recourse by the PharmAthene Indemnified Persons to the Escrow Fund shall constitute the sole and exclusive remedy of the PharmAthene Indemnified Persons for all Losses (other than for fraud or willful misconduct of Theraclone) that are to be indemnified by the Theraclone Stockholders hereunder.

Section 5.5 Indemnity Escrow; Distribution from Indemnity Escrow.

(a) Indemnity Escrow. To secure each Theraclone Stockholders' performance of its indemnity obligations under this ARTICLE V, and pursuant to Section 2.1(a), on the Closing Date, PharmAthene shall deliver to Citibank, N.A. (the "Escrow Agent") the Escrow Shares, which shall be held by the Escrow Agent in one escrow account (the "Escrow Fund") established with the Escrow Agent in accordance with the terms and conditions of the Escrow Agreement. The Escrow Agreement shall have a term lasting until the later of (i) the end of the Indemnity Period and (ii) such time that all claims arising in connection with the Escrow Fund prior to the expiration of the Indemnity Period have been fully resolved. The fees and expenses of the Escrow Agent under the Escrow Agreement shall be borne by PharmAthene. Any reduction in, or claim against, the Escrow Shares pursuant to this Agreement shall be made on a pro rata basis among all Theraclone Stockholders based on their Pro Rata Share.

(b) Distribution from Escrow.

(i) As soon as reasonably practicable (but in any event within ten (10) business days) following the expiration of the Indemnity Period, the Escrow Agent shall release to the Theraclone Stockholders, at their respective addresses and in accordance with their respective Pro Rata Shares, the Escrow Dividends (as defined below) and all of the remaining Escrow Shares, if any, in excess of (i) any Escrow Shares delivered by the Escrow Agent to PharmAthene Indemnified Persons in satisfaction of Losses incurred thereby and (ii) any amount of Escrow Shares that is necessary to satisfy all unresolved, unsatisfied or disputed claims for Losses specified in any Third Party Claim Notice or other claim notice delivered to the Securityholders' Representative before the expiration of the Indemnity Period. If any claims for Losses are unresolved, unsatisfied or disputed as of the expiration of the Indemnity Period, then the Escrow Agent shall retain possession of that number of Escrow Shares equal to the total maximum amount of Losses then being claimed by PharmAthene Indemnified Persons in all such unresolved, unsatisfied or disputed claims, and as soon as reasonably practicable (but in any event within ten (10) business days) following resolution of all such claims, Escrow Agent shall release to the Theraclone Stockholders, at their respective addresses and in accordance with their respective Pro Rata Shares of the Escrow Shares, all remaining Escrow Shares, if any, not required to satisfy such claims. Such releases of Escrow Dividends shall be made by check. If the number of Escrow Shares to be distributed to any Theraclone Stockholder is not evenly divisible by one, PharmAthene shall round to the nearest whole number.

(ii) If it is determined under the terms of this Agreement or by mutual agreement of PharmAthene and the Securityholders' Representative that Theraclone Stockholders have an obligation to indemnify a PharmAthene Indemnified Person for a claim pursuant to Section 5.1, then such PharmAthene Indemnified Person shall make such claim against the Escrow Fund in accordance with the terms and conditions of the applicable Escrow Agreement and any Losses for which such PharmAthene Indemnified Person is entitled to indemnification shall be recovered or paid from each Theraclone Stockholder's Pro Rata Share of the applicable Escrow Fund in accordance with the terms of this Agreement and the applicable Escrow Agreement until the aggregate amount of such Losses are paid or until the applicable Escrow Fund has been depleted.

(c) Distributions on Escrow Shares. Any dividends or distributions payable in shares of PharmAthene Stock or other equity securities or issued upon a stock split made in respect of any Escrow Shares shall be considered Escrow Shares hereunder. Cash dividends and any other dividends or distributions in kind on the Escrow Shares ("Escrow Dividends") shall be distributed to the Theraclone Stockholders in accordance with their respective Pro Rata Shares within ten (10) business days following the expiration of the Indemnity Period.

(d) Voting of Escrow Shares. The Theraclone Stockholders on whose behalf Escrow Shares are held by Escrow Agent shall be entitled to vote such shares. PharmAthene need not forward proxy information, annual or other reports or other information with respect to the Escrow Shares to the Theraclone Stockholders to the extent such documents or materials are otherwise furnished by PharmAthene with respect to other shares of PharmAthene Stock distributed to such holders pursuant to this Agreement.

(e) No Transfer or Encumbrance. To the extent permitted by applicable law, no Escrow Shares, Escrow Dividends, or any beneficial interest therein may be pledged, encumbered, sold, assigned or transferred (including any transfer by operation of law), by PharmAthene, any Theraclone Stockholder or be taken or reached by any legal or equitable process in satisfaction of any debt or other liability of PharmAthene or any Theraclone Stockholder or used for any reason, prior to (i) in the case of PharmAthene, the retention of Escrow Shares in satisfaction of a resolved claim for Losses, or (ii) in the case of the Theraclone Stockholders with respect to any Escrow Shares or Escrow Dividends, the release by Escrow Agent to the Theraclone Stockholders of Escrow Shares and Escrow Dividends, in accordance with this Agreement, except that Theraclone Stockholders shall be entitled to assign their rights to the Escrow Shares, Escrow Dividends, by will, by the laws of intestacy or by other operation of law.

Section 5.6 Indemnification Procedures.

(a) A PharmAthene Indemnified Person hereunder (the "Claiming Party") shall give the Securityholders' Representative prompt written notice of any claim of a third party during the Indemnity Period (a "Third Party Claim") as to which the Claiming Party proposes to demand indemnification hereunder, within fifteen (15) days after learning of such Third Party Claim (or within such shorter time as may be necessary to give the Securityholders' Representative a reasonable opportunity to respond to such claim and, in any event, prior to the expiration of the Indemnity Period), together with a statement setting forth in reasonable detail the nature and basis of such Third Party Claim and providing copies of the relevant documents evidencing such Third Party Claim, the amount of the claim, and the basis for the indemnification sought (such notice, statement and documents together, the "Third Party Claim Notice"). The Third Party Claim Notice shall (i) describe the claim in reasonable detail, and (ii) indicate the amount (estimated, if necessary, and to the extent feasible) of the Losses that have been or may be suffered by the Claiming Party with respect to such Third Party Claim. The failure to give a Third Party Claim Notice to the Securityholders' Representative shall not relieve the Theraclone Stockholders of any liability hereunder unless the Theraclone Stockholders were prejudiced thereby under this Article V, and then only to the extent of such prejudice. The Securityholders' Representative must provide written notice to the Claiming Party that it is either (i) assuming responsibility for the Third Party Claim, or (ii) disputing the claim for indemnification against it (such notice, the "Indemnification Notice"). The Indemnification Notice must be provided by the Securityholders' Representative to the Claiming Party within forty-five (45) days after receipt of the notice from the Claiming Party of the Third Party Claim (such period is referred to herein as the "Indemnification Notice Period").

(b) If the Securityholders' Representative provides an Indemnification Notice to the Claiming Party within the Indemnification Notice Period stating that it assumes responsibility for the Third Party Claim, the Securityholders' Representative shall have the right to assume and conduct the defense of such Third Party Claim at its own expense; *provided, however*, that the Claiming Party will be allowed a reasonable opportunity to participate in the defense of such Third Party Claim with its own counsel and at its own expense; and *provided, further,* that in the event that the interests of the Claiming Party and the Securityholders' Representative are, or may reasonably become, in conflict with, or adverse to one another, with respect to such Third Party Claim, the Claiming Party may retain its own counsel at its own expense with respect to such Third Party Claim. In the event the Securityholders' Representative assumes and conducts the defense on behalf of the Claiming Party, the Securityholders' Representative shall, subject to Section 5.3, Section 5.4, and Section 5.5, as applicable, be deemed to acknowledge that it is responsible to the Claiming Party for any damages as a result of such Third Party Claim, and may settle such Third Party Claim, but shall not, without the consent of the Claiming Party (which consent shall not be unreasonably withheld or delayed), agree to any settlement that does not include a provision whereby the plaintiff or claimant in the Third Party Claim releases the Claiming Party from all liability with respect thereto or agree to any relief other than money damages (and a full release related thereto). If the Securityholders' Representative does not assume the defense of such Third Party Claim in the manner provided above and does not dispute the claim for indemnification against it, or if after commencing or undertaking any such defense, fails to prosecute diligently or withdraws from such defense, the Claiming Party shall have the right to undertake the defense or settlement thereof, and the Claiming Party may defend against, or enter into any settlement with respect to, the matter in any manner the Claiming Party reasonably may deem appropriate; *provided that* any such settlement of such Third Party Claim must include a provision whereby the plaintiff or claimant in the matter releases the Claiming Party and the Securityholders' Representative from all liability with respect thereto; *provided further* that such Third Party Claim may not be settled without the consent of the Theraclone Secruityholders' Representative (not to be unreasonably withheld or delayed); and *provided further* that the Securityholders' Representative will be allowed a reasonable opportunity to participate in the defense of such Third Party Claim with its own counsel and at its own expense. In the event that a final judgment or order in favor of such third party in respect of such Third Party Claim is rendered against the Claiming Party, that is not subject to appeal or with respect to which the time to appeal has expired without an appeal having been made,

then subject to the limitations set forth in Section 5.3, Section 5.4, and Section 5.5, the Escrow Agent shall transfer to PharmAthene of a portion of the applicable Escrow Fund in an amount equal such liability.

(c) In the event that the Securityholders' Representative disputes the claim for indemnification against it with respect to such Third Party Claim, the Claiming Party shall have the right to conduct the defense and to compromise and settle such Third Party Claim in any manner the Claiming Party may deem reasonably appropriate; *provided that* the Claiming Party shall not, without the consent of the Securityholders' Representative, agree to any settlement that does not include a provision whereby the plaintiff or claimant of such Third Party Claim releases the Theraclone Stockholders' from all liability with respect to such Third Party Claim; and *provided further* that such Third Party Claim may not be settled without the consent of the Theraclone Secruityholders' Representative (not to be unreasonably withheld or delayed). If such dispute regarding the indemnification obligation of the Theraclone Stockholders with respect to such Third Party Claim has been finally resolved by a court or other tribunal of competent jurisdiction, or by mutual agreement of the Claiming Party and Securityholders' Representative, to provide for indemnification by the Theraclone Stockholders' of such Third Party Claim, subject to the provisions of Section 5.3, Section 5.4, and Section 5.5, the Escrow Agent shall within ten (10) days of the date of such resolution or agreement pay to the Claiming Party all damages paid or incurred by the Claiming Party in connection therewith by transferring to PharmAthene of a portion of the applicable Escrow Fund in an amount equal to such liability.

(d) In the event any Claiming Party should have a claim against the Theraclone Stockholders for indemnification of Losses hereunder during the Indemnity Period (other than in connection with a Third Party Claim), such Claiming Party shall deliver prompt notice of such claim to (i) the Securityholders' Representative within fifteen (15) days after learning of such claim (or within such shorter time as may be necessary to give the Securityholders' Representative a reasonable opportunity to respond to such claim and, in any event, prior to the expiration of the Indemnity Period) and (ii) to the Escrow Agent, stating (A) that the Claiming Party has paid or reserved the Losses and (B) in reasonable detail the nature and basis of such claim and providing copies of the relevant documents evidencing such claim, the amount of the claim, and the basis for the indemnification sought. Notwithstanding the foregoing, the failure of the Claiming Party to give such notice to the Securityholders' Representative shall not relieve the Theraclone Stockholders of any liability hereunder unless the Theraclone Stockholders were prejudiced thereby under this Article V, and then only to the extent of such prejudice. If the Securityholders' Representative notifies the Claiming Party that it does not dispute the claim described in such notice or fails to notify the Claiming Party within forty-five (45) days after delivery of such notice by the Claiming Party whether the Securityholders' Representative disputes the claim described in such notice, the Loss in the amount specified in the Claiming Party's notice shall be conclusively deemed a liability of the Theraclone Stockholders and, subject to the limitations set forth in this Article V, the Escrow Agent shall cause the transfer to PharmAthene of a portion of the applicable Escrow Fund in an amount equal to such liability. If the Securityholders' Representative has timely disputed its liability with respect to such claim, the dispute shall be resolved by mutual agreement of the Claiming Party and Securityholders' Representative, or in the absence of such agreement, by a court or other tribunal of competent jurisdiction. With respect to any such Loss, the Escrow Agent, on behalf of Theraclone Stockholders, shall transfer to PharmAthene a portion of the applicable Escrow Fund in an amount equal to such liability, no later than ten (10) days following the determination of the Theraclone Stockholders' liability (whether such determination is made pursuant to the procedures set forth in this Section 5.6(d), by agreement between the Securityholders' Representative and the Claiming Party or by final adjudication).

(e) Any indemnity payment due and payable by Escrow Agent under this Agreement shall be net of (i) any insurance proceeds actually recovered or received by the Claiming Party or any of its respective affiliates. The Claiming Party agrees to use commercially reasonable efforts to pursue any claims for insurance with respect to the claims or Losses for which it is seeking indemnification hereunder, (ii) indemnity or contribution amounts actually received from third parties (net of applicable costs of recovery or collection thereof), (iii) the amount of any Tax refunds, credits or other reductions in Taxes

actually received or realized or recognized by PharmAthene, its Affiliates or such PharmAthene Indemnified Person ("Tax Benefit") to the extent attributable to the incurrence or payment of such Losses; and (iv) any Tax Benefit resulting from any payment which is made pursuant to this Agreement and which is treated as compensation for any Tax purpose. Except as otherwise provided in this Section 5.6(e), the existence of any insurance policies shall not affect the indemnification obligations of Theraclone Stockholders.

(f) The Securityholders' Representative shall act as the representative of Theraclone Stockholders for purposes of this Section 5.6 and as further described in Section 5.7.

Section 5.7 Securityholders' Representative.

(a) At the Closing, Steven Gillis, Ph.D. shall be constituted and appointed as the Securityholders' Representative. For purposes of this Agreement, the term "Securityholders' Representative" shall mean the agent for and on behalf of the Theraclone Stockholders to: (i) execute, as Securityholders' Representative, this Agreement, the Escrow Agreement and any agreement or instrument entered into or delivered in connection with the transactions contemplated hereby; (ii) give and receive notices, instructions, and communications permitted or required under this Agreement, the Escrow Agreement, or any other agreement, document or instrument entered into or executed in connection herewith, for and on behalf of any Theraclone Stockholder, to or from PharmAthene (on behalf of itself or any other PharmAthene Indemnified Person) and/or the Escrow Agent relating to this Agreement, the Escrow Agreement or any of the transactions and other matters contemplated by hereby or thereby (except to the extent that this Agreement expressly contemplates that any such notice or communication shall be given or received by each Theraclone Stockholder individually); (ii) review, negotiate and agree to and authorize transfers to PharmAthene from the Escrow Fund in satisfaction of Losses incurred by PharmAthene (on behalf of itself or any other PharmAthene Indemnified Person) pursuant to Article V; (iii) object to such claims pursuant to Article V; (iv) consent or agree to, negotiate, enter into, or, if applicable, contest, prosecute or defend, settlements and compromises of, and demand arbitration and comply with orders of courts and awards of arbitrators with respect to, such claims, resolve any such claims, take any actions in connection with the resolution of any dispute relating hereto or to the transactions contemplated hereby by arbitration, settlement or otherwise, and take or forego any or all actions permitted or required of any Theraclone Stockholder or necessary in the judgment of the Securityholders' Representative for the accomplishment of the foregoing and all of the other terms, conditions and limitations of this Agreement; (v) consult with legal counsel, independent public accountants and other experts selected by it, solely at the cost and expense of the Theraclone Stockholders; (vi) consent or agree to any amendment to this Agreement or to waive any terms and conditions of this Agreement providing rights or benefits to the Theraclone Stockholders (other than with respect to the payment of the Merger Consideration) in accordance with the terms of this Agreement and in the manner provided herein; and (vii) take all actions necessary or appropriate in the judgment of the Securityholders' Representative for the accomplishment of the foregoing, in each case without having to seek or obtain the consent of any person under any circumstance. The Theraclone Stockholders shall be bound by all actions taken and documents executed by the Securityholders' Representative in connection with this Agreement.

(b) The Securityholders' Representative shall not be liable to any Theraclone Stockholders for any act done or omitted hereunder as the Securityholders' Representative while acting in good faith (and any act done or omitted pursuant to the advice of counsel shall be conclusive evidence of such good faith) and without gross negligence or willful misconduct. The Securityholders' Representative shall serve as the Securityholders' Representative without compensation; provided, that the Theraclone Stockholders shall severally indemnify the Securityholders' Representative and hold him harmless against any loss, liability or expense incurred without gross negligence, willful misconduct or bad faith on the part of the Securityholders' Representative and arising out of or in connection with the acceptance or administration of his duties hereunder, including all reasonable out-of-pocket costs and expenses and legal fees and other legal costs reasonably incurred by the Securityholders' Representative. If not paid directly to the Securityholders' Representative by the Theraclone Stockholders, such losses, liabilities or expenses may be recovered by the Securityholders' Representative from the Escrow Fund otherwise distributable to the Theraclone Stockholders after the expiration of the Indemnity Period pursuant to the terms of this

Agreement and of the Escrow Agreement, at the time of distribution, and such recovery will be made from the Theraclone Stockholders according to their respective Pro Rata Share.

(c) Any notice or communication given or received by, and any decision, action, failure to act within a designated period of time, agreement, consent, settlement, resolution or instruction of, the Securityholders' Representative that is within the scope of the Securityholders' Representative's authority under Article V shall constitute a notice or communication to or by, or a decision, action, failure to act within a designated period of time, agreement, consent, settlement, resolution or instruction of all the Theraclone Stockholders and shall be final, binding and conclusive upon each such Theraclone Stockholder.

(d) The person serving as the Securityholders' Representative may be replaced from time to time by the holders of at least majority in interest of the Escrow Shares held in the Escrow Fund upon not less than ten (10) days' prior written notice to Theraclone. No bond shall be required of the Securityholders' Representative, and the Securityholders' Representative shall receive no compensation for his services.

Section 5.8 Representations and Warranties. The representations and warranties of Theraclone contained in this Agreement constitute the sole and exclusive representations and warranties made by or on behalf of Theraclone in connection with the transactions contemplated by this Agreement, and PharmAthene understands, acknowledges and agrees that all other representations and warranties made by or on behalf of Theraclone of any kind or nature, express or implied, are specifically disclaimed by the Company.

Section 5.9 Exclusive Remedy. Except with respect to any Loss that is the result of fraud or willful misconduct on the part of Theraclone, PharmAthene agrees that from and after the Closing, PharmAthene Indemnified Persons' sole and exclusive remedy with respect to any and all claims relating to breaches of covenants, representations and warranties of this Agreement shall be indemnification pursuant to this Article V; *provided*, *however*, that nothing in this provision shall limit any equitable remedy, including injunctions and specific performance, that a PharmAthene Indemnified Person may have pursuant to this Agreement.

Section 5.10 Subrogation. Upon making any indemnification payment under this Article V, the Theraclone Stockholders will, to the extent of such payment, be subrogated to all rights of the Claiming Party against any third party in respect of the Losses to which such payment relates.

Section 5.11 Merger Consideration Adjustment. All indemnification payments made hereunder will be treated by all parties as adjustments to the Merger Consideration.

## ARTICLE VI

## CERTAIN AGREEMENTS

Section 6.1 Conduct of Business by Theraclone and by PharmAthene.

(a) Subject to the terms of the Confidentiality Agreement which PharmAthene and Theraclone agree will continue in full force following the date of this Agreement, from and after the date of this Agreement and prior to the Effective Time or the date, if any, on which this Agreement is earlier terminated pursuant to Section 8.1 (the "Termination Date"), and except (i) as may be required by applicable Law, (ii) as may be agreed in writing by PharmAthene or Theraclone, as applicable, (iii) as may be required or expressly permitted by this Agreement or (iv) as set forth in Section 6.1 of the Theraclone Disclosure Schedule or Section 6.1 of the PharmAthene Disclosure Schedule, as applicable, each of PharmAthene (with respect to itself and its Subsidiaries) and Theraclone agrees that (A) the business of it and, with respect to PharmAthene, its Subsidiaries shall be conducted in, and such entities shall not take any action except in, the ordinary course of business and, to the extent consistent therewith, (B) it shall use commercially reasonable efforts to preserve substantially intact its current business organizations, to keep available the services of its current officers and employees and to preserve its relationships with significant suppliers, licensors, licensees, distributors, lessors and others having significant business dealings with it.

(b) Between the date of this Agreement and the earlier of the Effective Time and the Termination Date, without the prior written consent of PharmAthene (not to be unreasonably withheld, conditioned or delayed), except as set forth in Section 6.1 of the Theraclone Disclosure Schedule or as required by applicable Law, Theraclone shall not:

(i) authorize, declare or pay any dividends on, or make any distribution with respect to, its outstanding shares of capital stock (whether in cash, assets, shares or other securities of Theraclone);

(ii) split, combine or reclassify any of its capital stock or other equity securities or issue or authorize or propose the issuance of any other securities in respect of, in lieu of or in substitution for shares of its capital stock or other equity securities;

(iii) (A) other than grants to Theraclone employees in the ordinary course of business or to a new employee in a manner consistent with past practice, grant, or commit to grant any stock options, stock appreciation rights, restricted shares, restricted stock units, deferred equity units, awards based on the value of Theraclone Common Shares, or other equity-based awards with respect to Theraclone Common Shares, under any equity incentive plan (including the Theraclone Stock Incentive Plan) or otherwise, or (B) except as required by applicable Law (including section 409A of the Code and regulations issued thereunder), (1) increase or commit to increase the compensation or other benefits payable or provided to Theraclone's current or former directors, officers, employees, consultants, or independent contractors, (2) enter into or commit to enter into any employment, change of control, severance, retention, deferred compensation, indemnification, or similar agreement with any director, officer, employee, consultant, or independent contractor of Theraclone, other than (I) in the ordinary course of business with respect to a new employee in a manner consistent with past practice or (II) for employment agreements terminable on less than thirty (30) days' notice without penalty or cost, including severance, or (3) except as permitted pursuant to clause (I) or (II) above or as required pursuant to the terms of any Theraclone Benefit Plan, establish, adopt, enter into, amend, become a party to, or commence participation in, or commit to establish, adopt, enter into, amend, become a party to, or commence participation in, any collective bargaining agreement, plan, trust, fund, policy, or arrangement, or Theraclone Benefit Plan (or any plan, arrangement, agreement, program, practice, or policy that would be a Theraclone Benefit Plan if it were in effect as of the date of this Agreement) for the benefit of any current or former directors, officers, employees, consultants, or independent contractors, or any of their beneficiaries;

(iv) materially change financial accounting policies or procedures or any of its methods of reporting income, deductions or other material items for financial accounting purposes, except as required by GAAP, SEC rule or policy or applicable Law;

(v) adopt any amendments to the Theraclone Certificate of Incorporation or the Theraclone Bylaws;

(vi) issue, sell, pledge, dispose of or encumber, or authorize the issuance, sale, pledge, disposition or encumbrance of, any shares of its capital stock or other ownership interest in Theraclone or any securities convertible into or exchangeable for any such shares or ownership interest, or any rights, warrants or options to acquire or with respect to any such shares of capital stock, ownership interest or convertible or exchangeable securities or take any action to cause to be exercisable any otherwise unvested Theraclone Stock Option, or cause to be vested any unvested Theraclone share-based award, under the Theraclone Stock Incentive Plan (except as otherwise provided by the terms of this Agreement or for nondiscretionary actions pursuant to the express terms of any unvested Theraclone Stock Options or unvested Theraclone share-based awards outstanding on the date of this Agreement), other than (A) issuances of Theraclone Common Shares in respect of any exercise of Theraclone Stock Options and settlement of any Theraclone share-based awards or Theraclone Warrants outstanding on the date of this Agreement (in accordance with their respective terms), or that may be granted after the date of this Agreement as permitted under this Section 6.1(b), and (B) the sale of Theraclone Common Shares pursuant to the exercise of Theraclone Stock Options to purchase Theraclone Common Shares if necessary to effectuate an optionee direction upon exercise or for withholding of Taxes;

(vii) directly or indirectly, purchase, redeem or otherwise acquire any shares of its capital stock or any rights, warrants or options to acquire any such shares, other than purchases or deemed acquisitions of Theraclone Common Shares in respect of the exercise price or tax withholding obligations relating to a Theraclone share-based award upon the net exercise or vesting of any such award in a manner consistent with past practice;

(viii) incur, assume, guarantee, prepay, redeem, repurchase or otherwise become liable for, or modify in any material respect the terms of, any Indebtedness for borrowed money or become responsible for the Indebtedness of any person (directly, contingently or otherwise), other than in the ordinary course of business consistent with past practice and except for (A) Indebtedness for borrowed money incurred to replace, renew, extend, refinance or refund any existing Indebtedness for borrowed money that (x) is in an amount not exceeding such existing Indebtedness, (y) is on terms no less favorable in the aggregate than such existing Indebtedness and (z) that does not contain provisions that will result in the occurrence of a default or event of default (with notice or lapse of time, or both) upon the consummation of the Merger or (B) guarantees by Theraclone of Indebtedness for borrowed money of Theraclone, which Indebtedness for borrowed money is incurred in compliance with this Section 6.1(b).

(ix) sell, lease, license, transfer, exchange or swap, mortgage or otherwise encumber (including via securitizations), or subject to any Lien (other than Permitted Liens) or otherwise dispose of (whether by merger, consolidation or acquisition of stock or assets, license or otherwise, and including by way of formation of a joint venture) any material portion of its properties or assets and except pursuant to existing agreements in effect prior to the execution of this Agreement and listed in Section 3.18 of the Theraclone Disclosure Schedule;

(x) modify, amend, terminate or waive any rights under any Theraclone Material Contract or Real Property Lease, in any manner the effect of which is, individually or in the aggregate, materially adverse to Theraclone;

(xi) enter into any Contract that would be a Theraclone Material Contract or Real Property Lease if in effect on the date of this Agreement, other than in the ordinary course of business consistent with past practice;

(xii) acquire (whether by merger, consolidation or acquisition of stock or assets, license or otherwise) any corporation, partnership or other business organization or division thereof or any assets, other than purchases of inventory and other assets in the ordinary course of business consistent with past practice;

(xiii) authorize or make any capital expenditures, other than (A) in accordance with Theraclone capital expenditures plan set forth as Section 6.1(b)(xiii) to the Theraclone Disclosure Schedule, (B) in connection with the repair or replacement of facilities destroyed or damaged due to casualty or accident (whether or not covered by insurance) and (C) otherwise in an aggregate amount for all such capital expenditures made pursuant to this clause (C) not to exceed $250,000;

(xiv) make any loans, advances or capital contributions to, or investments in, any person, in each case other than loans and advances to Theraclone;

(xv) enter into, amend, waive or terminate (other than terminations in accordance with their terms) any Theraclone Affiliate Transactions in any material respect;

(xvi) abandon, fail to maintain and renew, or otherwise let lapse, any material Intellectual Property;

(xvii) adopt or enter into a plan of complete or partial liquidation, dissolution, restructuring, recapitalization or other reorganization of Theraclone;

(xviii) (A) waive, settle, satisfy or compromise any actions, suits, arbitrations, mediations or proceedings, other than any such actions, suits, arbitrations, mediations or proceedings not in excess of $250,000 individually or in the aggregate, except for any actions, suits, arbitrations, mediations or

proceedings where Theraclone is the plaintiff, in which case, Theraclone made waive, settle, satisfy or compromise, provided that any such waiver, settlement, satisfaction or compromise does not result in an obligation of Theraclone to pay money or have any other obligation to the counterparty as a result thereof, or (B) waive, settle, satisfy or compromise any pending or threatened actions, suits, arbitrations, mediations or proceedings arising out of or related to this Agreement or the transactions contemplated hereby; or

(xix) agree, in writing or otherwise, or announce an intention, to take any of the foregoing actions.

(c) Between the date of this Agreement and the earlier of the Effective Time and the Termination Date, without the prior written consent of Theraclone (not to be unreasonably withheld, conditioned or delayed), except as set forth in Section 6.1 of the PharmAthene Disclosure Schedule or as required by applicable Law, PharmAthene shall not, and shall not permit any of its Subsidiaries to:

(i) authorize, declare or pay any dividends on or make any distribution with respect to its outstanding shares of capital stock (whether in cash, assets, shares or other securities of PharmAthene or its Subsidiaries), except for dividends by any wholly owned Subsidiary of PharmAthene to PharmAthene or to another wholly owned Subsidiary of PharmAthene;

(ii) split, combine or reclassify any of its capital stock or other equity securities or issue or authorize or propose the issuance of any other securities in respect of, in lieu of or in substitution for shares of its capital stock or other equity securities, except for any such transaction by a wholly owned direct or indirect Subsidiary of PharmAthene which remains a wholly owned direct or indirect Subsidiary after consummation of such transaction;

(iii) (A) other than grants to PharmAthene employees in the ordinary course of business or to a new employee in a manner consistent with past practice, grant or commit to grant any stock options, stock appreciation rights, restricted shares, restricted stock units, deferred equity units, awards based on the value of PharmAthene Common Stock, or other equity-based awards with respect to PharmAthene Common Stock, under any equity incentive plan or otherwise, or (B) except as required by applicable Law (including section 409A of the Code and regulations issued thereunder), (1) increase or commit to increase the compensation or other benefits payable or provided to PharmAthene's current or former directors, officers, employees, consultants, or independent contractors, (2) enter into or commit to enter into any employment, change of control, severance, retention, deferred compensation, indemnification, or similar agreement with any director, officer, employee, consultant, or independent contractor of PharmAthene, other than (I) in the ordinary course of business with respect to a new employee in a manner consistent with past practice or (II) for employment agreements terminable on less than thirty (30) days' notice without penalty or cost, including severance, (3) add additional participants to or increase any benefits for existing participants in the severance plan adopted on May 9, 2012 and described in the PharmAthene proxy statement for the 2013 annual meeting of PharmAthene stockholders or (4) except as permitted pursuant to clause (I) or (II) above or as required pursuant to the terms of any PharmAthene Benefit Plan, establish, adopt, enter into, amend, become a party to, or commence participation in, or commit to establish, adopt, enter into, amend, become a party to, or commence participation in, any collective bargaining agreement, plan, trust, fund, policy, or arrangement, or PharmAthene Benefit Plan (or any plan, arrangement, agreement, program, practice, or policy that would be a PharmAthene Benefit Plan if it were in effect as of the date of this Agreement) for the benefit of any current or former directors, officers, employees, consultants, or independent contractors, or any of their beneficiaries;

(iv) materially change financial accounting policies or procedures or any of its methods of reporting income, deductions or other material items for financial accounting purposes, except as required by GAAP, SEC rule or policy or applicable Law;

(v) adopt any amendments to PharmAthene's Certificate of Incorporation or PharmAthene's Bylaws or similar applicable charter documents of PharmAthene or any of its Subsidiaries;

(vi) except for transactions among PharmAthene and its wholly owned direct or indirect Subsidiaries or among PharmAthene's wholly owned direct or indirect Subsidiaries, issue, sell, pledge, dispose of or encumber, or authorize the issuance, sale, pledge, disposition or encumbrance of, any shares of its capital stock or other ownership interest in PharmAthene or any Subsidiaries or any securities convertible into or exchangeable for any such shares or ownership interest, or any rights, warrants or options to acquire or with respect to any such shares of capital stock, ownership interest or convertible or exchangeable securities or take any action to cause to be exercisable any otherwise unvested PharmAthene Stock Option, or cause to be vested any unvested PharmAthene share-based award, under the PharmAthene Stock Incentive Plan (except as otherwise provided by the terms of this Agreement or for nondiscretionary actions pursuant to the express terms of any unvested PharmAthene Stock Options or unvested PharmAthene share-based awards outstanding on the date of this Agreement), other than (A) issuances of PharmAthene Common Shares in respect of any exercise of PharmAthene Stock Options and settlement of any PharmAthene share-based awards outstanding on the date of this Agreement (in accordance with their respective terms), or that may be granted after the date of this Agreement as permitted under this Section 6.1(c) and (B) the sale of PharmAthene Common Stock pursuant to the exercise of PharmAthene Stock Options to purchase PharmAthene Common Stock if necessary to effectuate an optionee direction upon exercise or for withholding of Taxes;

(vii) except for transactions among PharmAthene and its wholly owned Subsidiaries or among PharmAthene's wholly owned Subsidiaries, directly or indirectly, purchase, redeem or otherwise acquire any shares of its capital stock or any rights, warrants or options to acquire any such shares, other than purchases or deemed acquisitions of Common Shares in respect of the exercise price or tax withholding obligations relating to a PharmAthene share-based award upon the net exercise or vesting of any such award in a manner consistent with past practice;

(viii) incur, assume, guarantee, prepay, redeem, repurchase or otherwise become liable for, or modify in any material respect the terms of, any Indebtedness for borrowed money or become responsible for the Indebtedness of any person (directly, contingently or otherwise), other than in the ordinary course of business consistent with past practice and except for (A) any intercompany Indebtedness for borrowed money among PharmAthene and its wholly owned Subsidiaries or among PharmAthene wholly owned Subsidiaries, (B) Indebtedness for borrowed money incurred to replace, renew, extend, refinance or refund any existing Indebtedness for borrowed money that (x) is in an amount not exceeding such existing Indebtedness, (y) is on terms no less favorable in the aggregate than such existing Indebtedness and (z) that does not contain provisions that will result in the occurrence of a default or event of default (with notice or lapse of time, or both) upon the consummation of the Merger or (C) guarantees by PharmAthene or one of its Subsidiaries of Indebtedness for borrowed money of PharmAthene or any of its Subsidiaries, which Indebtedness for borrowed money is incurred in compliance with this Section 6.1(c);

(ix) except for transactions among PharmAthene and its wholly owned Subsidiaries or among PharmAthene's wholly owned Subsidiaries, sell, lease, license, transfer, exchange or swap, mortgage or otherwise encumber (including via securitizations), or subject to any Lien (other than Permitted Liens) or otherwise dispose of (whether by merger, consolidation or acquisition of stock or assets, license or otherwise, and including by way of formation of a joint venture) any material portion of its or its Subsidiaries' properties or assets, including the capital stock of Subsidiaries and except pursuant to existing agreements in effect prior to the execution of this Agreement and listed in Section 4.18 of the PharmAthene Disclosure Schedule;

(x) modify, amend, terminate or waive any rights under any PharmAthene Material Contract or Real Property Lease, in any manner the effect of which is, individually or in the aggregate, materially adverse to PharmAthene and its Subsidiaries taken as a whole;

(xi) enter into any Contract that would be a PharmAthene Material Contract or Real Property Lease if in effect on the date of this Agreement, other than in the ordinary course of business consistent with past practice;

(xii) acquire (whether by merger, consolidation or acquisition of stock or assets, license or otherwise) any corporation, partnership or other business organization or division thereof or any assets, other than purchases of inventory and other assets in the ordinary course of business consistent with past practice;

(xiii) authorize or make any capital expenditures, other than (A) in accordance with PharmAthene capital expenditures plan set forth as Section 6.1(c)(xiii) of the PharmAthene Disclosure Schedule, (B) in connection with the repair or replacement of facilities destroyed or damaged due to casualty or accident (whether or not covered by insurance) and (C) otherwise in an aggregate amount for all such capital expenditures made pursuant to this clause (C) not to exceed $250,000;

(xiv) make any loans, advances or capital contributions to, or investments in, any person, in each case other than loans and advances to PharmAthene or a wholly owned Subsidiary of PharmAthene by a wholly owned Subsidiary of PharmAthene, or loans, advances, capital contributions to, or investments in, a wholly owned Subsidiary of PharmAthene;

(xv) enter into, amend, waive or terminate (other than terminations in accordance with their terms) any PharmAthene Affiliate Transaction in any material respect;

(xvi) abandon, fail to maintain and renew, or otherwise let lapse, any material Intellectual Property;

(xvii) adopt or enter into a plan of complete or partial liquidation, dissolution, restructuring, recapitalization or other reorganization of PharmAthene, or any of its Subsidiaries (other than the Merger or a merger of two or more wholly owned Subsidiaries of PharmAthene);

(xviii) (A) waive, settle, satisfy or compromise any actions, suits, arbitrations, mediations or proceedings, other than any such actions, suits, arbitrations, mediations or proceedings not in excess of $250,000 individually or in the aggregate, except for any actions, suits, arbitrations, mediations or proceedings where PharmAthene is the plaintiff, in which case, PharmAthene may waive, settle, satisfy or compromise, provided that any such waiver, settlement, satisfaction or compromise does not result in an obligation of PharmAthene to pay money or have any other obligation to the counterparty as a result thereof without restriction or (B) waive, settle, satisfy or compromise any pending or threatened action, suits, arbitrations, mediations or proceedings arising out of or related to this Agreement or the transactions contemplated hereby; or

(xix) agree, in writing or otherwise, or announce an intention, to take any of the foregoing actions.

(d) Between the date of this Agreement and the earlier of the Effective Time and the Termination Date, PharmAthene and its Subsidiaries shall:

(i) prepare and timely file all Tax Returns required to be filed by it (or them) on or before the Closing Date ("PharmAthene Post-Signing Returns") in a manner consistent with past practice, except as otherwise required by a change in applicable Law;

(ii) consult with Theraclone with respect to all material closing agreements, issue resolution agreements and other agreements or confirmations to be executed or entered into or received by PharmAthene or any of its Subsidiaries with or from the IRS;

(iii) fully and timely pay all material Taxes due and payable in respect of such PharmAthene Post-Signing Returns that are so filed, or for any such Taxes as to which there is a good faith dispute, provide for adequate reserves on the financial statements of PharmAthene;

(iv) properly reserve (and reflect such reserve in their books and records and financial statements), for all Taxes payable by them for which no PharmAthene Post-Signing Return is due prior to the Closing Date in a manner consistent with past practice;

(v) promptly notify Theraclone of any material actions, suits, arbitrations, mediations or proceedings or audit pending or threatened against PharmAthene or any of its Subsidiaries in respect of any material Tax matter, including Tax liabilities and refund claims;

(vi) not make (except in the ordinary course of business) or revoke any material election with regard to Taxes or file any material amended Tax Returns, without the prior written consent of Theraclone;

(vii) not make (except in the ordinary course of business) any change in any Tax or accounting methods or systems of internal accounting controls (including procedures with respect to the payment of accounts payable and collection of accounts receivable), except as may be appropriate to conform to changes in Tax Laws or regulatory accounting requirements, without the prior written consent of Theraclone;

(viii) terminate all Tax allocation, indemnification or sharing agreements to which PharmAthene or any of its Subsidiaries is a party such that there are no further liabilities thereunder (other than any such agreements solely among PharmAthene and any of its Subsidiaries); and

(ix) maintain its existing listing on NYSE MKT LLC and file or furnish all forms, documents and reports required to be filed or furnished with the SEC, which forms, documents and reports shall comply in all material respects with the requirements of the Securities Act and the Exchange Act, as the case may be, and the applicable rules and regulations promulgated thereunder, and none of such forms, documents and reports shall contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(e) Between the date of this Agreement and the earlier of the Effective Time and the Termination Date, Theraclone shall:

(i) prepare and timely file all Tax Returns required to be filed by it (or them) on or before the Closing Date ("Theraclone Post-Signing Returns") in a manner consistent with past practice, except as otherwise required by a change in applicable Law;

(ii) consult with PharmAthene with respect to all material closing agreements, issue resolution agreements and other agreements or confirmations to be executed or entered into or received by Theraclone or any of its Subsidiaries with or from the IRS;

(iii) fully and timely pay all material Taxes due and payable in respect of such Theraclone Post-Signing Returns that are so filed, or for any such Taxes as to which there is a good faith dispute, provide for adequate reserves on the financial statements of Theraclone;

(iv) properly reserve (and reflect such reserve in their books and records and financial statements), for all Taxes payable by them for which no Theraclone Post-Signing Return is due prior to the Closing Date in a manner consistent with past practice;

(v) promptly notify PharmAthene of any material actions, suits, arbitrations, mediations or proceedings or audit pending or threatened against Theraclone or any of its Subsidiaries in respect of any material Tax matter, including Tax liabilities and refund claims;

(vi) not make (except in the ordinary course of business) or revoke any material election with regard to Taxes or file any material amended Tax Returns, without the prior written consent of PharmAthene;

(vii) not make (except in the ordinary course of business) or any change in any Tax or accounting methods or systems of internal accounting controls (including procedures with respect to the payment of accounts payable and collection of accounts receivable), except as may be appropriate to conform to changes in Tax Laws or regulatory accounting requirements, without the prior written consent of PharmAthene; and

(viii) terminate all Tax allocation, indemnification or sharing agreements to which Theraclone or any of its Subsidiaries is a party such that there are no further liabilities thereunder (other than any such agreements solely among Theraclone and any of its Subsidiaries).

(f) Between the date of this Agreement and the earlier of the Effective Time and the Termination Date, Merger Sub shall not, without the prior written consent of Theraclone: (i) issue, sell, deliver or agree or commit to issue, sell or deliver (whether through the issuance or granting of options, warrants, commitments, subscriptions, rights to purchase or otherwise) any equity securities of Merger Sub, (ii) incur any obligations or liabilities or enter into any Contract other than in furtherance of the transactions contemplated hereby or (iii) authorize any of, or commit or agree to take, any of the foregoing actions.

Section 6.2 Investigation. Prior to the earlier of the Effective Time and the Termination Date, each of PharmAthene and Theraclone shall afford to the other party and to each of the other party's officers, employees, accountants, consultants, legal counsel, financial advisors, prospective financing sources (and their advisors) and agents and other representatives (collectively, "Representatives") reasonable access upon at least one Business Day's prior notice during normal business hours to its (and its Subsidiaries', if applicable) officers, properties, contracts, commitments, books and records and any report, schedule or other document filed or received by it pursuant to the requirements of applicable Laws and shall furnish the other party and their respective Representatives with financial, operating and other data and information as the other party may from time to time reasonably request. Without limiting the generality of any of the foregoing, until the earlier of the Effective Time and the Termination Date, each of PharmAthene and Theraclone shall promptly make available to the other party copies of:

(a) the unaudited monthly consolidated balance sheets of such party as of the end of each calendar month and the related unaudited monthly consolidated statements of operations, statements of stockholders' equity and statements of cash flows for such calendar month, which shall be delivered within twenty days after the end of such calendar month, or such longer periods as the parties may mutually agree to in writing;

(b) the unaudited quarterly consolidated balance sheets of such party as of the end of each calendar quarter and the related unaudited quarterly consolidated statements of operations, statements of stockholders' equity and statements of cash flows for such calendar quarter, reviewed by such party's independent auditor, which shall be delivered within forty days after the end of such calendar quarter, or such longer periods as the parties may mutually agree to in writing;

(c) any notice, report or other document filed with or otherwise furnished, submitted or sent to any Governmental Entity on behalf of a party in connection with the Merger or any of the transaction contemplated hereby;

(d) any non-privileged notice, document or other communication sent by or on behalf of, or sent to, a party relating to any pending or threatened actions, suits, arbitrations, mediations or proceedings pending involving or affecting such party;

(e) any material notice, report or other document received by a party from any Governmental Entity;

(f) with respect to PharmAthene, (i) any quarterly report on Form 10-Q, annual report on Form 10-K, proxy statement, information statement or other similar document required to be filed or furnished with the SEC at least five days prior to the date of such filing and (ii) all current reports on Form 8-K to be filed or furnished with the SEC at least 24 hours prior to the date of such filing and, in each case, give Theraclone the opportunity to review and provide comments, which shall be reasonably considered by PharmAthene.

Notwithstanding the foregoing, neither party shall be required to afford such access to the extent it would unreasonably disrupt the operations of such party or any of such party's Subsidiaries, would cause a violation of any agreement to which such party or any of such party's Subsidiaries is a party (although each party shall use commercially reasonable efforts to obtain any necessary consent so that such violation would not occur), would cause a reasonable risk of a loss of a privilege to such party or any of such party's Subsidiaries or

would constitute a violation of any applicable Law, nor shall such party or any of its Representatives be permitted to perform any onsite procedure (including any onsite environmental study) with respect to any property of the other party or any of its Subsidiaries. The parties agree that no information discovered by any party or its Representatives in the course of any investigation pursuant to this Section 6.2 or otherwise shall be deemed to modify or waive any representation, warranty, covenant or agreement of the other party contained in this Agreement.

Section 6.3 No Solicitation.

(a) Each of PharmAthene, its Subsidiaries and their respective Representatives will (i) immediately cease and cause to be terminated any and all existing activities, discussions or negotiations with any Persons conducted prior to or on the date of this Agreement with respect to any PharmAthene Takeover Proposal and (ii) promptly (and in any event within one (1) Business Day after the date hereof) request the prompt return from all such Persons or cause the destruction of all copies of all information or data previously provided to such Persons by PharmAthene or its Representatives, as applicable, in accordance with the provisions of the confidentiality or non-disclosure agreement governing PharmAthene's arrangements with such Person and shall deny access to any virtual data room containing any such information to any party (other than Theraclone and its Representatives). If any Representative of PharmAthene or any of its Subsidiaries, in his or her capacity as such, takes any action that PharmAthene is obligated not to authorize or permit such Representative to take, then such action shall be attributed to PharmAthene.

(b) From the date of this Agreement until the earlier of the Effective Time and the Termination Date, PharmAthene shall not, nor shall it permit any of its Subsidiaries to, nor shall it authorize or permit any officer, director or employee of or any other Representative of, PharmAthene or any of its Subsidiaries to, directly or indirectly, (i) solicit, initiate or knowingly encourage the submission of any inquiries concerning, or the making of any proposal or offer that constitutes, or could reasonably be expected to lead to, a PharmAthene Takeover Proposal, (ii) enter into any agreement, letter of intent, agreement in principle or other similar instrument with respect to any PharmAthene Takeover Proposal, (iii) provide any non-public information regarding PharmAthene or its Subsidiaries to any third party or engage in any negotiations or discussions in connection with any PharmAthene Takeover Proposal or otherwise knowingly cooperate with or assist or participate in or knowingly encourage any such negotiations or discussions, (iv) approve or recommend a PharmAthene Takeover Proposal, or resolve or authorize an intention to approve or recommend, or execute or enter into, any Acquisition Agreement, (v) submit to the stockholders of PharmAthene for their approval or adoption any PharmAthene Takeover Proposal, (vi) withdraw, rescind, qualify or modify, or propose publicly to withdraw, rescind, qualify or modify, in a manner adverse to Theraclone, the PharmAthene Recommendation or the approval by the PharmAthene Board of Directors or such committee of this Agreement or the Merger or resolve or authorize an intention to do any of the foregoing, (vii) if a tender offer or exchange offer for shares of capital stock of PharmAthene that constitutes an PharmAthene Takeover Proposal is commenced, fail to publicly recommend against acceptance of such tender offer or exchange offer by the stockholders of PharmAthene (taking no position with respect to the acceptance of such tender offer or exchange offer by the stockholders of PharmAthene, shall constitute a failure to recommend against acceptance of such tender offer or exchange offer) within ten (10) Business Days after commencement thereof or fail to reaffirm the PharmAthene Recommendation within four (4) Business Days after Theraclone so requests in writing, (viii) approve (by resolution of the PharmAthene Board of Directors, any committee thereof or otherwise), support, enter into or adopt or recommend to any holders of PharmAthene Shares, or propose any of the foregoing with respect to, any letter of intent or similar document, Contract, commitment or agreement in principle (whether written or oral, binding or nonbinding) that may reasonably be expected to cause PharmAthene to abandon, terminate or fail to consummate this Agreement or the transactions contemplated hereby or (ix) agree or publicly announce any intention to take any of the foregoing actions (any of the foregoing in clauses (i) through (ix), inclusive, a "PharmAthene Recommendation Withdrawal"); provided, that the PharmAthene Board of Directors may, at any time prior to Closing, (x) in response to an unsolicited, *bona fide*, written PharmAthene Superior Proposal that was made in circumstances not involving a breach of this Section 6.3 if the PharmAthene Board of Directors

reasonably determines in good faith, after consultation with its outside counsel and its outside financial advisor, that failing to take the following action would be a breach of its fiduciary duties under applicable Law, (I) effect a PharmAthene Recommendation Withdrawal or (II) terminate this Agreement in accordance with Section 8.1(h) or (y) in the event that, after the date hereof, the Court of Chancery of the State of Delaware shall have rendered a substantive decision on the merits in that certain litigation matter between PharmAthene and SIGA Technologies, Inc., and, within twenty (20) business days after the entry of such decision, the PharmAthene Board of Directors determines, in its reasonable discretion, that, as a result of such decision, it can no longer consider the Merger a merger of equals (the "Transaction Event"), (I) effect a PharmAthene Recommendation Withdrawal or (II) terminate this Agreement in accordance with Section 8.1(h) ("Transaction Event Withdrawal").

(c) Notwithstanding anything to the contrary contained in Section 6.3(a), if at any time prior to obtaining the PharmAthene Stockholder Approval and prior to the occurrence of a Transaction Event, (i) PharmAthene has received a bona fide written PharmAthene Takeover Proposal from a third party that did not result from a breach of this Section 6.3 that is conditioned on PharmAthene not entering into the Merger, and (ii) the PharmAthene Board of Directors reasonably determines in good faith, after consultation with its outside financial advisor and its outside counsel, that such PharmAthene Takeover Proposal constitutes or would reasonably be expected to result in a PharmAthene Superior Proposal then, if the PharmAthene Board of Directors determines in good faith, after consultation with its outside financial advisor and its outside counsel, that the failure to take the following action would be reasonably likely to result in a breach of the fiduciary duties of the PharmAthene Board of Directors under applicable Law, then PharmAthene or its Representatives may, subject to PharmAthene's providing prior written notice to Theraclone of its decision to take such action and compliance by PharmAthene with this Section 6.3(c) and Section 6.3(d), (A) provide information regarding PharmAthene and its Subsidiaries to the person or persons making such PharmAthene Takeover Proposal and their respective Representatives and financing sources and (B) engage in negotiations or discussions with the person or persons making such PharmAthene Takeover Proposal and their respective Representatives and financing sources, subject, in each case, to (x) the person or persons making the PharmAthene Takeover Proposal entering into, or are otherwise being made subject to, an Acceptable PharmAthene Confidentiality Agreement (a copy of which shall promptly, and in any event within 24 hours following execution thereof, be provided to Theraclone) and (y) PharmAthene providing prior written notice to Theraclone of any non-public information provided to such person or persons making such PharmAthene Takeover Proposal or their respective Representatives or financing sources and concurrently with the delivery to such person (in the case of written information) or promptly (in the case of information delivered orally) deliver to Theraclone all such information that is non-public and that was not previously provided to Theraclone.

(d) PharmAthene shall promptly (and in any event within one (1) Business Day) notify Theraclone in the event it receives a PharmAthene Takeover Proposal or any request or inquiry that could reasonably be expected to lead to a PharmAthene Takeover Proposal from any person or persons, including by notifying Theraclone of the identity of the person or persons making such PharmAthene Takeover Proposal, request or inquiry and the material terms and conditions thereof. PharmAthene shall inform Theraclone on a prompt and current basis (and in any event within one (1) Business Day) of the status and material details of any such request or inquiry, including any change in the material terms or conditions of a PharmAthene Takeover Proposal (it being understood that any change in the type, amount or quantity of the merger consideration shall be deemed to be a change in a material term) and promptly (and in any event within one (1) Business Day) provide Theraclone with copies of any written PharmAthene Takeover Proposals received by PharmAthene. Promptly upon determination by the PharmAthene Board of Directors that a PharmAthene Takeover Proposal constitutes a PharmAthene Superior Proposal in accordance with Section 6.3(d), PharmAthene shall deliver to Theraclone a written notice advising Theraclone that the PharmAthene Board of Directors has so determined, specifying the material terms and conditions of such PharmAthene Superior Proposal (including the terms of the consideration that the holders of PharmAthene Common Stock will receive per share of shares of PharmAthene Common Stock and including any written agreement providing for a PharmAthene Superior Proposal and the identity of the person or persons making such PharmAthene Superior Proposal). In addition, PharmAthene Board of Directors shall not make a PharmAthene Recommendation Withdrawal or terminate this Agreement for purposes of

entering into an agreement with respect to an PharmAthene Superior Proposal unless (x) PharmAthene notifies Theraclone, in writing at least three (3) Business Days before taking such action, of its intention to do so in response to an offer, proposal or inquiry to enter into a PharmAthene Takeover Proposal that it has determined, after consultation with its outside financial advisor and its outside counsel, that such PharmAthene Takeover Proposal constitutes a PharmAthene Superior Proposal and attaching the most current version of any proposed agreement or a summary of all material terms of any such proposal and the identity of the offeror, (y) PharmAthene shall have, during such three (3) Business Day period, negotiated in good faith with Theraclone with respect to any changes to this Agreement that Theraclone shall have proposed and (z) Theraclone does not make, within three (3) Business Days after its receipt of that written notification, an offer that is at least as favorable to the stockholders of PharmAthene as such PharmAthene Superior Proposal, it being understood that PharmAthene shall not enter into any binding agreement with respect to such Superior Proposal during such three (3) Business Day period. If, following execution by the parties hereto of an amendment to this Agreement providing for revisions to the terms of the transactions as completed by this Agreement that obviate the need for a PharmAthene Recommendation Withdrawal in connection with a PharmAthene Superior Proposal, such PharmAthene Superior Proposal is revised (on one or more occasions), or PharmAthene receives a PharmAthene Superior Proposal from another person, then the provisions of this Section 6.3(d) shall be applicable with respect to each such PharmAthene Recommendation Withdrawal relating to any such amended or additional PharmAthene Superior Proposal.

(e) Nothing contained in this Agreement shall prohibit PharmAthene or the PharmAthene Board of Directors from taking and disclosing to the stockholders a position contemplated by Rules 14d-9 and 14e-2(a) promulgated under the Exchange Act with respect to a tender or exchange offer by a third party only if the PharmAthene Board of Directors determines in good faith, after consultation with its outside financial advisor and its outside counsel, that failure to make such disclosure would be reasonably likely to result in a breach of the fiduciary duties of the PharmAthene Board of Directors under applicable Law; provided, however, that (i) in no event shall PharmAthene or the PharmAthene Board of Directors take, or agree or resolve to take, any action that would constitute a PharmAthene Recommendation Withdrawal other than in compliance with this Section 6.3 and (ii) any such position or disclosure in connection with a tender offer or exchange offer other than a recommendation against such offer or a customary “stop, look and listen” communication of the type contemplated by Rule 14d-9(f) under the Exchange Act, in each case that includes a reaffirmation of the PharmAthene Recommendation and a reaffirmation of the approval by the PharmAthene Board of Directors of the Merger and this Agreement and the transactions contemplated hereby and the actions taken in connection herewith, shall be deemed to be an PharmAthene Recommendation Withdrawal.

(f) PharmAthene and its Affiliates shall not grant a waiver or release under any other standstill agreement in effect on the date hereof or amend, modify or grant permission under any provision thereof; *provided* that PharmAthene shall be permitted to grant a waiver or release under any other standstill agreement in effect on the date hereof solely to the extent necessary to permit the Person subject to such standstill agreement to make and engage in discussions with respect to, and negotiate, a PharmAthene Takeover Proposal that is conditioned on entering into mutually satisfactory definitive documentation with PharmAthene in response to an unsolicited, *bona fide*, written request from such Person that was made in circumstances not involving a breach of this Section 6.3, but only if the PharmAthene Board of Directors reasonably determines in good faith, after consultation with its outside financial advisor and its outside counsel, that failure to take such action would be reasonably likely to result in a breach of the fiduciary duties of the PharmAthene Board of Directors under applicable Law. PharmAthene shall provide written notice to Theraclone of the waiver or release of any standstill by PharmAthene promptly (and in any event within 24 hours) following such waiver or release, which notice shall include the identity of the Person or group receiving the waiver or release.

Section 6.4 Filings; Other Actions.

(a) Each of Theraclone, PharmAthene and Merger Sub shall use reasonable best efforts to take or cause to be taken such actions as may be required to be taken under the Securities Act, the Exchange Act, any other federal securities Laws, any applicable state securities or “blue sky” Laws and any stock

exchange requirements in connection with the Merger and the other transactions contemplated by this Agreement. Without limiting the foregoing, as promptly as practicable after the date of this Agreement, the parties hereto shall prepare and cause to be filed with the SEC the Proxy Statement and the Form S-4 Registration Statement, in which the Proxy Statement will be included as a prospectus; provided, however, that prior to the filing of the Proxy Statement and the Form S-4 Registration Statement, PharmAthene shall consult with Theraclone with respect to such filings and shall afford Theraclone and its Representatives reasonable opportunity to comment thereon. The parties hereto shall use reasonable best efforts to cause the Proxy Statement to be mailed to PharmAthene's stockholders and Theraclone's stockholders, all as promptly as reasonably practicable after the date on which the Form S-4 Registration Statement is declared effective under the Securities Act (the "S-4 Effective Date"). Theraclone shall provide PharmAthene with any information for inclusion in the Proxy Statement and the Form S-4 Registration Statement that may be required under applicable Law or that is reasonably requested by PharmAthene. PharmAthene shall notify Theraclone of the receipt of comments from the SEC and of any request from the SEC for amendments or supplements to the Proxy Statement, the Form S-4 Registration Statement or for additional information, and will promptly supply to Theraclone copies of all correspondence between PharmAthene or its Representatives, on the one hand, and the SEC or members of its staff, on the other hand, with respect to the Proxy Statement, the Form S-4 Registration Statement or the Merger. Each of Theraclone, PharmAthene and Merger Sub shall use reasonable best efforts to resolve all SEC comments with respect to the Proxy Statement, the Form S-4 Registration Statement and any other required filings as promptly as practicable after receipt thereof. Each of Theraclone, PharmAthene and Merger Sub agree to correct any information provided by it for use in the Proxy Statement or the Form S-4 Registration Statement, which shall have become false or misleading in any material respect. Theraclone will promptly notify the PharmAthene if at any time prior to the PharmAthene Meeting any event should occur which is required by applicable Law to be set forth in an amendment of, or a supplement to, the Proxy Statement or the Form S-4 Registration Statement. In such case, the parties will cooperate to promptly prepare and file such amendment or supplement with the SEC to the extent required by applicable Law and will mail such amendment or supplement to PharmAthene's stockholders to the extent required by applicable Law; provided, however, that prior to such filing, each party shall consult with each other party with respect to such amendment or supplement and shall afford each such party and its Representatives reasonable opportunity to comment thereon. Notwithstanding the forgoing, no party shall have any obligation to notify the other parties of any matters to the extent that its board of directors or any committee thereof determines in good faith, after consultation with its outside legal counsel, that to do so would be inconsistent with the directors' exercise of their fiduciary obligations to its stockholders under applicable Law.

(b) PharmAthene shall include in the Proxy Statement the recommendation of PharmAthene's board of directors that its stockholders approve an amendment to PharmAthene's bylaws (the "PharmAthene Bylaw Amendment") that provides that effective as of effective time of the appointment of Clifford J. Stocks as PharmAthene's Chief Executive Officer and until the Board Change Date, Mr. Stocks may not be removed from such office, unless his removal is approved by at least sixty six and two-thirds percent (66 2/3%) of the then-serving members of the PharmAthene's board of directors. At any time after the Resigning PharmAthene Board Designee Resignation Date, Mr. Stocks may be removed from the office of Chief Executive Officer of PharmAthene by at least a majority of the then-serving members of the PharmAthene's board of directors. For purposes hereof, the "Board Change Date" means the earlier of (i) the second anniversary of the date hereof, and (ii) such time as there is a period longer than thirty (30) days in which less than five (5) of (A) the PharmAthene Board Designees or (B) any member of the PharmAthene board of directors who replaces any of the PharmAthene Board Designees and was nominated by the remaining PharmAthene Board Designees pursuant to the Board Composition Agreement are then incumbent on the PharmAthene board of directors.

(c) Subject to the other provisions of this Agreement, not sooner than a reasonable period after the S-4 Effective Date, but prior to the PharmAthene Shareholder Meeting, promptly after the S-4 Effective Date, Theraclone shall take all action necessary in accordance with the DGCL and the Theraclone Certificate of Incorporation and Theraclone Bylaws to solicit approval by written consent from

Theraclone's stockholders for the purpose of obtaining the Theraclone Stockholder Approval (the "Theraclone Stockholder Written Consent").

(d) Subject to the other provisions of this Agreement, PharmAthene shall (i) take all action necessary in accordance with the DGCL and PharmAthene's certificate of incorporation and bylaws to duly call, give notice of, convene and hold a meeting of its stockholders as promptly as reasonably practicable following the mailing of the Proxy Statement for the purpose of obtaining the PharmAthene Stockholder Approval (the "PharmAthene Meeting") (including mailing the Proxy Statement as soon as reasonably practicable after the S-4 Effective Date and holding the PharmAthene Meeting no later than 40 days after mailing the Proxy Statement, unless a later date is mutually agreed by Theraclone and by PharmAthene), (ii) include in the Proxy Statement the recommendation of PharmAthene's board of directors that its stockholders grant the PharmAthene Stockholder Approval and (iii) use all reasonable best efforts to solicit from its stockholders proxies to secure the PharmAthene Stockholder Approval. PharmAthene shall, in its capacity as the sole stockholder of Merger Sub, approve this Agreement and the consummation of the transactions contemplated hereby.

Section 6.5 Benefit Plans.

(a) With respect to any Theraclone Benefit Plan or PharmAthene Benefit Plan in which any employees and former employees of Theraclone (the "Participating Employees") first become eligible to participate on or after the Effective Time, and in which such Participating Employees did not participate prior to the Effective Time (collectively, the "New Plans"), each Participating Employee shall, to the extent permitted by applicable law, receive full credit for the years of continuous service by such Participating Employee recognized by Theraclone prior to the Effective Time to the same extent as if it were service with PharmAthene for purposes of (1) satisfying the service requirements for eligibility to participate in each such New Plan, (2) vesting in any benefits under each such New Plan, and (3) calculating the level of benefits with respect to vacation, personal days off, severance benefits and any other welfare-type benefits with respect to which a Participating Employee may be eligible, where service is a factor in calculating benefits, provided that, none of the foregoing shall apply with respect to defined benefit pension plans benefit accrual or where such credit would result in a duplication of benefits. With respect to any New Plan that is a welfare benefit plan in which any Participating Employees first become eligible to participate on or after the Effective Time, and in which such Participating Employees did not participate prior to the Effective Time, subject to any applicable plan provisions, contractual requirements or laws, PharmAthene shall, (A) cause to be waived any eligibility requirements or pre-existing condition limitations except to the extent such eligibility requirements, waiting periods, any evidence of insurability requirements or pre-existing conditions would apply under the analogous Theraclone Benefit Plan or PharmAthene Benefit Plan in which any such Participating Employee was a participant or eligible to participate as of immediately prior to the Effective Time, and (B) give effect, in determining any deductibles, co-insurance or maximum out of pocket limitations, to amounts paid by such Participating Employees prior to the Effective Time under a Theraclone Benefit Plan or PharmAthene Benefit Plan in which any such Participating Employee was a participant as of immediately prior to the Effective Time (to the same extent that such credit was given under such Theraclone Benefit Plan or PharmAthene Benefit Plan prior to the Effective Time) in satisfying such requirements during the plan year in which the Effective Time occurs.

(b) If requested by PharmAthene at least ten business days prior to the Closing Date, Theraclone shall take (or cause to be taken) all actions reasonably necessary pursuant to resolutions of the Theraclone Board of Directors necessary or appropriate to terminate, effective no later than the day prior to the Closing Date, any defined contribution Theraclone Benefit Plan that contains a cash or deferred arrangement, whether intended to qualify under section 401(k) of the Code or otherwise (a "Theraclone Defined Contribution Plan"). If Theraclone is required to terminate any Theraclone Defined Contribution Plan, then Theraclone shall provide to PharmAthene prior to the Closing Date written evidence of the adoption by the Theraclone Board of Directors of resolutions authorizing the termination of such Theraclone Defined Contribution Plan (the form and substance of which resolutions shall be subject to the prior reasonable review and approval of PharmAthene, which approval shall not be unreasonably withheld or delayed).

(c) Nothing contained in this Section 6.5, express or implied, (1) shall be construed to establish, amend, or modify any benefit plan, program, agreement or arrangement, including without limitation, any Theraclone Benefit Plan or any PharmAthene Benefit Plan, (2) shall alter or limit the ability of any of PharmAthene, Merger Sub, Theraclone, the Surviving Subsidiary, or, with respect to PharmAthene, its Subsidiaries to amend, modify, or terminate any benefit plan, program, agreement, or arrangement at any time assumed, established, sponsored, or maintained by any of them, (3) is intended to confer upon any current or former employee any right to employment or continued employment for any period of time by reason of this Agreement, or any right to a particular term or condition of employment, or (4) is intended to confer upon any person (including for the avoidance of doubt any current or former employee) any right as a third-party beneficiary of this Agreement.

(d) To the maximum extent permitted by Law, PharmAthene and Theraclone shall treat, and cause their respective affiliates to treat, the U.S. federal and state income tax deductions resulting from any severance payments and any other compensatory payments arising as a result of the transactions contemplated hereby that are, in each case, made on the Closing Date as accruing on the day after the Closing pursuant to the "next day" rule of Treasury Regulation section 1.1502-76(b)(1)(ii)(B) or any similar provision of state or local Tax Law.

Section 6.6 Reasonable Best Efforts.

(a) Subject to the terms and conditions set forth in this Agreement, and except where a different standard of effort is provided in this Agreement, each of the parties hereto shall use (and cause its affiliates to use) its reasonable best efforts (subject to, and in accordance with, applicable Law) to take promptly, or cause to be taken promptly, all actions, and to do promptly, or cause to be done promptly, and to assist and cooperate with the other parties in doing, all things necessary, proper or advisable under applicable Laws to consummate and make effective the Merger and the other transactions contemplated by this Agreement, including (i) obtaining all necessary actions or nonactions, waivers, consents and approvals, including the Theraclone Approvals, from Governmental Entities and making all necessary registrations and filings, (ii) obtaining all necessary consents, approvals or waivers from third parties and (iii) executing and delivering any additional instruments necessary to consummate the Merger and the other transactions contemplated by this Agreement.

(b) If any administrative or judicial action or proceeding or any proceeding or action by a private party, is instituted (or threatened to be instituted) challenging any transaction contemplated by this Agreement and/or seeking to restrain, enjoin or otherwise prohibit the consummation of the Merger, each of Theraclone and PharmAthene shall cooperate in all respects with each other and shall use their respective reasonable best efforts to contest and resist any such action or proceeding and to have vacated, lifted, reversed or overturned any decree, judgment, injunction or other order, whether temporary, preliminary or permanent, that is in effect and that prohibits, prevents or restricts consummation of the transactions contemplated by this Agreement. Notwithstanding the foregoing or any other provision of this Agreement, nothing in this Section 6.6 shall limit a party's right to terminate this Agreement pursuant to Section 8.1(c) so long as such party has, prior to such termination, complied with its obligations under this Section 6.6.

Section 6.7 Takeover Statute. If any "fair price," "moratorium," "control share acquisition" or other form of antitakeover statute or regulation shall become applicable to the transactions contemplated hereby, each party hereto and the members of their respective boards of directors shall, to the extent permitted by applicable Law, grant such approvals and take such actions as are reasonably necessary so that the transactions contemplated hereby may be consummated as promptly as practicable on the terms contemplated hereby and otherwise act to eliminate or minimize the effects of such statute or regulation on the transactions contemplated hereby.

Section 6.8 Public Announcements; Confidentiality. Except as explicitly provided in Section 6.3, Theraclone and PharmAthene shall consult with and provide each other the reasonable opportunity to review and comment upon any press release or other public statement or comment prior to the issuance of such press release or other public statement or comment relating to this Agreement or the transactions contemplated by this Agreement and neither shall issue any such press release or other public statement or comment without the

other's prior consultation, except as may be required by applicable Law or by the rules or regulations of the SEC or any applicable national securities exchange. PharmAthene and Theraclone agree to issue a joint press release announcing this Agreement upon the consummation of the transactions contemplated by this Agreement. The parties hereto acknowledge that PharmAthene and Theraclone have previously executed the Confidentiality Agreement and agree that the Confidentiality Agreement shall continue in full force and effect in accordance with its terms.

Section 6.9 Indemnification and Insurance.

(a) PharmAthene and the Surviving Subsidiary shall indemnify the current and former directors, officers, employees and agents of Theraclone and any other employees who have executed individual indemnity agreements as set forth on Section 6.9(a) of the Theraclone Disclosure Schedule (an "Indemnified Party") for all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys' fees and disbursements, incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that the Indemnified Party is or was an officer, director, employee or agent of Theraclone or, while a director or officer of Theraclone, is or was serving at the request of Theraclone or as a director, officer, employee or agent of another person, whether asserted or claimed prior to, at or after the Effective Time, to the fullest extent permitted by Law, and such obligations shall survive the Merger, and shall continue in full force and effect in accordance with their respective terms from the Effective Time, until the expiration of the applicable statute of limitations with respect to any claims against such Indemnified Parties arising out of such acts or omissions. Each Indemnified Party will be entitled to advancement of expenses (including attorneys' fees) incurred in the defense of any such claim, action, suit, proceeding or investigation from each of PharmAthene and the Surviving Subsidiary within ten Business Days of receipt by PharmAthene or the Surviving Subsidiary from the Indemnified Party of a request therefor; provided that any Indemnified Party to whom expenses are advanced provides an undertaking, to the extent required by the DGCL, to repay such advances if it is determined by a final determination of a court of competent jurisdiction (which determination is not subject to appeal) that such Indemnified Party is not entitled to indemnification under applicable Law. The certificate of incorporation and by-laws of the Surviving Subsidiary shall contain provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of former and present officers, directors, employees and agents than are set forth in the Theraclone Certificate of Incorporation and the Theraclone Bylaws, as of the date of this Agreement, which provisions shall not be amended, repealed or otherwise modified, except as required by applicable Law, for a period of six years from the Effective Time, in any manner that would adversely affect the rights thereunder of any such individuals.

(b) Theraclone may obtain at or prior to the Effective Time, prepaid (so-called "tail") directors' and officers' liability insurance policies in respect of acts or omissions occurring at or prior to the Effective Time for six years from the Effective Time covering each Indemnified Party; provided, however, that, without the prior written consent of PharmAthene, Theraclone may not expend for any twelve (12) month period therefor in excess of 300% of the amount paid by Theraclone for coverage for the period of twelve (12) months beginning on January 1, 2012. If Theraclone does not obtain "tail" insurance as contemplated by the immediately preceding sentence, then, for a period of six (6) years from the Effective Time PharmAthene shall cause the Surviving Subsidiary to maintain in effect the current policies of directors' and officers' liability insurance and fiduciary liability insurance maintained by Theraclone with respect to matters arising on or before the Effective Time; provided, however, that after the Effective Time the Surviving Subsidiary shall not be required to pay annual premiums in excess of 300% of the last annual premium paid by Theraclone prior to the date of this Agreement in respect of the coverages required to be obtained pursuant hereto, but in such case shall purchase as much coverage as is reasonably available for such amount.

(c) The provisions of this Section 6.9 shall survive the consummation of the Merger and expressly are intended to benefit, and are enforceable by, each of the Indemnified Parties.

(d) If PharmAthene, the Surviving Subsidiary or any of their respective successors or assigns (i) consolidates with or merges into any other person and shall not be the continuing or surviving

corporation or entity in such consolidation or merger or (ii) transfers all or substantially all of its properties and assets to any person, then, and in either such case, proper provision shall be made so that the successors and assigns of PharmAthene or the Surviving Subsidiary, as the case may be, shall assume the obligations set forth in this Section 6.9.

(e) If any Indemnified Party makes any claim for indemnification or advancement of expenses under this Section 6.9 that is denied by PharmAthene or the Surviving Subsidiary, and a court of competent jurisdiction determines that the Indemnified Party is entitled to such indemnification or advancement of expenses, then PharmAthene or the Surviving Subsidiary shall pay the Indemnified Party's costs and expenses, including reasonable legal fees and expenses, incurred by the Indemnified Party in connection with pursuing his or her claims to the fullest extent permitted by Law.

(f) The provisions of this Section 6.9 are intended to be in addition to the rights otherwise available to the current officers, directors, employees and agents of Theraclone by Law, charter, statute, by-law or agreement.

Section 6.10 Control of Operations. Nothing contained in this Agreement shall give PharmAthene, directly or indirectly, the right to control or direct Theraclone operations prior to the Effective Time. Prior to the Effective Time, Theraclone shall exercise, consistent with the terms and conditions of this Agreement, complete control and supervision over its operations. Nothing contained in this Agreement shall give Theraclone, directly or indirectly, the right to control or direct PharmAthene's operations prior to the Effective Time. Prior to the Effective Time, PharmAthene shall exercise, consistent with the terms and conditions of this Agreement, complete control and supervision over its operations.

Section 6.11 No Other Representations or Warranties. Except for the representations and warranties contained in Article III, neither Theraclone nor any person on behalf of Theraclone makes any other express or implied representation or warranty with respect to Theraclone or with respect to any other information provided to PharmAthene or Merger Sub in connection with the transactions contemplated by this Agreement. Except for the representations and warranties contained in Article IV, none of PharmAthene or Merger Sub or any other person on behalf of PharmAthene or Merger Sub makes any other express or implied representation or warranty with respect to PharmAthene or any of its Subsidiaries or with respect to any other information provided to Theraclone in connection with the transactions contemplated hereby.

Section 6.12 Stock Exchange Listing. PharmAthene shall use its reasonable best efforts to cause the shares of PharmAthene Common Stock to be issued in the Merger to be approved for listing on NYSE MKT LLC**,** subject to official notice of issuance, prior to the Effective Time.

Section 6.13 PharmAthene Board.

(a) PharmAthene shall take all requisite action to cause, effective as of the Effective Time, the board of directors of PharmAthene to consist of nine (9) members, five (5) of whom shall be current directors of PharmAthene (each such person, a "PharmAthene Board Designee"), three (3) of whom shall be the persons identified in Section 6.13 of the Theraclone Disclosure Schedule (each such person, a "Theraclone Board Designee") and the remaining seat shall be vacant. After the Effective Time, the composition of the Board shall be determined in accordance with the Board Composition Agreement.

(b) PharmAthene acknowledges that the Board Composition Agreement that will be entered into by the Theraclone Shareholders and the PharmAthene Approving PharmAthene Stockholders at Closing will act:

(i) to cause the initial vacancy on the PharmAthene board of directors to be filled at Closing or as soon as possible thereafter by a nominee (the "Fourth Theraclone Director") approved by a majority of the then-serving Theraclone Board Designees;

(ii) to cause one of the PharmAthene Board Designees (the "Resigning PharmAthene Board Designee") to resign upon the earlier of (i) such time as there has been a full settlement or a final, non-appealable resolution of that certain litigation matter between PharmAthene and SIGA Technologies, Inc. and (ii) the second anniversary of the Closing, but in no event prior to the first anniversary of the Closing (the "Resigning PharmAthene Board Designee Resignation Date");

(iii) to cause all vacancies on the PharmAthene board of directors created by the cessation of service of any Theraclone Board Designee to be filled by a nominee approved by the remaining Theraclone Board Designees;

(iv) to cause all vacancies on the PharmAthene board of directors created by the cessation of service of any PharmAthene Board Designee to be filled by a nominee approved by the remaining PharmAthene Board Designees;

(v) to cause fifty percent (50%) of the members of all committees of the PharmAthene Board of Directors to be filled by Theraclone Board Designees and where a committee of the PharmAthene Board of Directors is comprised of an odd number of directors, the last director shall be mutually agreed to by the PharmAthene Board Designees and Theraclone Board Designees that are members of such committee;

(vi) to obtain the resignations, or to cause the removal without cause, of the directors identified on Section 6.13 of the PharmAthene Disclosure Schedule as of the Closing Date; and

(vii) to obtain the resignation of the Resigning PharmAthene Board Designee on or before the Resigning PharmAthene Board Designee Resignation Date.

Subject to compliance with applicable Law, the rules and regulations of NYSE MKT LLC and to the extent not inconsistent with the fiduciary duties of the board of directors of PharmAthene, the Theraclone Board Designees and, if applicable, the Fourth Theraclone Director (or their successors as provided above) shall be nominated for election at each of the two successive annual meetings of PharmAthene's stockholders at which directors are to be elected following the Closing Date and PharmAthene shall not take any action to expand the size of its board of directors or to change the proportionate representation on any committee thereof during such three year period.

Section 6.14 Treatment as Reorganization. Unless required by applicable Law, none of PharmAthene, the Merger Sub or Theraclone shall, and, with respect to PharmAthene, shall not permit its Subsidiaries to, take any action (other than actions contemplated by this Agreement) or fail to take any action prior to, at or following the Closing that would reasonably be expected to cause the Merger to fail to qualify as a reorganization with the meaning of section 368(a) of the Code.

## ARTICLE VII

## CONDITIONS TO THE MERGER

Section 7.1 Conditions to Each Party's Obligation to Effect the Merger. The respective obligations of each party to effect the Merger shall be subject to the fulfillment (or waiver by all parties) at or prior to the Effective Time of the following conditions:

(a) The Theraclone Stockholder Approval and the PharmAthene Stockholder Approval shall have been obtained.

(b) No Law, judgment, injunction, order or decree by any court or other tribunal of competent jurisdiction which prohibits the consummation of the Merger shall have been adopted or entered and shall continue to be in effect.

(c) The shares of PharmAthene Common Stock to be issued in the Merger shall have been approved for listing on NYSE MKT LLC, subject to official notice of issuance.

(d) The Form S-4 Registration Statement shall have become effective in accordance with the provisions of the Securities Act, and shall not be subject to any stop order or proceeding (or threatened proceeding by the SEC) seeking a stop order with respect to the Form S-4 Registration Statement.

(e) The PharmAthene Bylaw Amendment shall have been approved at the PharmAthene Meeting.

Section 7.2 Conditions to Obligation of Theraclone to Effect the Merger. The obligation of Theraclone to effect the Merger is further subject to the fulfillment of the following conditions:

(a) The representations and warranties of PharmAthene and Merger Sub set forth in this Agreement (other than those contained in Section 4.1(a), Section 4.2(a), Section 4.3(a), Section 4.3(b), Section 4.3(c), and Section 4.23 which are covered by the next succeeding sentence), disregarding all qualifications and exceptions contained therein related to "materiality" or "PharmAthene Material Adverse Effect," shall be true and correct in all respects, in each case as of the date of this Agreement and as of the Closing Date, as though made on and as of the Closing Date (or, if given as of a specific date, at and as of such date), except where the failure of such representations or warranties to be true and correct has not had and would not reasonably be expected to have, individually or in the aggregate, a PharmAthene Material Adverse Effect. The representations and warranties set forth in Section 4.1(a), Section 4.2(a), Section 4.3(a), Section 4.3(b), Section 4.3(c), and Section 4.11 shall be true and correct in all respects (except, in the case of Section 4.3(a), Section 4.3(b) and Section 4.3(c), for such inaccuracies as are *de minimis* in the aggregate) as of the date hereof and as of the Closing Date, as though made on and as of the Closing Date (or, if given as of a specific date, as of such date).

(b) PharmAthene shall have delivered to Theraclone an Escrow Agreement between the Securityholders' Representative, PharmAthene, and the Escrow Agent (the "Escrow Agreement"), duly executed by PharmAthene, in the form agreed upon among Theraclone and the parties thereto.

(c) PharmAthene shall have in all material respects performed all obligations and complied with all the agreements required by this Agreement to be performed or complied with by it prior to the Effective Time.

(d) PharmAthene shall have delivered to Theraclone a certificate, dated the Effective Time and signed by its Chief Executive Officer or another senior officer, certifying to the effect that the conditions set forth in Section 7.2(a), Section 7.3(c) and Section 7.3(f) have been satisfied.

(e) PharmAthene shall have delivered to Theraclone a fully executed copy of the Board Composition Agreement, in the form attached hereto as Exhibit 6, pursuant to which the PharmAthene Approving Stockholders have, among other things, agreed to vote all of the stock of PharmAthene owned by such stockholders following the consummation of the Merger to designate Steve Gillis, Ph.D., Wende Hutton, Clifford J. Stocks, Mitch Sayare, Ph.D., Eric I. Richman, Derace L. Schaffer, M.D., John M. Gill, and Brian A. Markison as members of the PharmAthene Board of Directors (the "Board Composition Agreement").

(f) Since the date hereof, no PharmAthene Material Adverse Effect shall have occurred.

Section 7.3 Conditions to Obligation of PharmAthene to Effect the Merger. The obligation of PharmAthene to effect the Merger is further subject to the fulfillment of the following conditions:

(a) The representations and warranties of Theraclone set forth in this Agreement (other than those contained in Section 3.1(a), Section 3.2(a), Section 3.3(a), Section 3.16, and Section 3.17, which are covered by the next succeeding sentence), disregarding all qualifications and exceptions contained therein related to "materiality" or "Theraclone Material Adverse Effect," shall be true and correct in all respects, in each case as of the date of this Agreement and as of the Closing Date, as though made on and as of the Closing Date (or, if given as of a specific date, at and as of such date), except where the failure of such representations or warranties to be true and correct has not had and would not reasonably be expected to have, individually or in the aggregate, a Theraclone Material Adverse Effect. The representations and warranties of Theraclone set forth in Section 3.1(a), Section 3.2(a), Section 3.3(a), Section 3.16, and Section 3.17 shall be true and correct in all respects (except, in the case of Section 3.2(a), for such inaccuracies as are *de minimis* in the aggregate) as of the date hereof and as of the Closing Date, as though made on and as of the Closing Date (or, if given as of a specific date, as of such date).

(b) Theraclone shall have delivered to PharmAthene the Escrow Agreement, duly executed by Theraclone and the Securityholders' Representative.

(c) Theraclone shall have in all material respects performed all obligations and complied with all the agreements required by this Agreement to be performed or complied with by it prior to the Effective Time.

(d) Theraclone shall have delivered to PharmAthene a certificate, dated the Effective Time and signed by its Chief Executive Officer or another senior officer, certifying to the effect that the conditions set forth in Section 7.3(a), Section 7.3(c) and Section 7.3(f) have been satisfied.

(e) Theraclone shall have delivered to PharmAthene a fully executed copy of the Board Composition Agreement, in the form attached hereto as Exhibit 6, pursuant to which the Approving Theraclone Stockholders have, among other things, agreed to vote all of the stock of PharmAthene owned by such stockholders following the consummation of the Merger to designate Steve Gillis, Ph.D., Wende Hutton, Clifford J. Stocks, Mitch Sayare, Ph.D., Eric I. Richman, Derace L. Schaffer, M.D., John M. Gill, and Brian A. Markison as members of the PharmAthene Board of Directors.

(f) Since the date hereof, no Theraclone Material Adverse Effect shall have occurred.

(g) No more than five percent (5%) of the total issued and outstanding shares of PharmAthene Common Stock have delivered written demands for appraisal in accordance with the DGCL.

(h) All Theraclone Approvals shall have been obtained.

(i) The Post-Closing Lock-Up Agreement shall continue to be in full force and effect at the Effective Time.

(j) All $8,000,000 of capital committed to Theraclone pursuant to that certain Series B-1 Purchase Agreement has been delivered to and deposited by Theraclone.

(k) Theraclone shall have delivered to PharmAthene a FIRPTA Notification Letter addressed to PharmAthene, dated as of the Closing Date, duly executed by Theraclone, satisfying each of the requirements of Treasury Regulations section 1.897-2(h) and (i) stating that Theraclone has never been a "United States real property holding corporation," as defined in section 897(c)(2) of the Code, and (ii) that no interest in Theraclone is a "United States real property interest," as defined in Section 897(c)(1) of the Code.

(l) Theraclone shall have delivered to PharmAthene a notice to the IRS, satisfying each of the requirements of Treasury Regulation section 1.897-2(h)(2), dated as of the Closing Date, executed by Theraclone, together with written authorization for the Surviving Subsidiary to deliver such notice form to the IRS after the Effective Time.

## ARTICLE VIII

## TERMINATION

Section 8.1 Termination and Abandonment. Notwithstanding anything contained in this Agreement to the contrary, this Agreement may be terminated and abandoned at any time prior to the Effective Time, and except as provided below, whether before or after receipt of the Theraclone Stockholder Approval or the PharmAthene Stockholder Approval:

(a) by the mutual written consent of Theraclone and PharmAthene;

(b) by either PharmAthene or Theraclone if the Merger shall not have been consummated by January 31, 2014 (the "Outside Closing Date Termination Right"); provided, however, that the right to terminate this Agreement under this Section 8.1(b) shall not be available to any party hereto whose action or failure to act has been a principal cause of the failure of the Merger to occur on or before such date and such action or failure to act constitutes a breach of this Agreement, provided, further, that, in the event that the SEC has not declared the Form S-4 Registration Statement effective under the Securities Act by October 4, 2013, then either PharmAthene or Theraclone shall be entitled to extend the date for termination of this Agreement pursuant to this Section 8.1(b) for an additional sixty (60) days; provided, further, that in no event shall PharmAthene be entitled to terminate this Agreement pursuant to this

Section 8.1(b) prior to such time at which a PharmAthene Meeting was held during which a quorum necessary to conduct the business of the PharmAthene Meeting was present at all times;

(c) by either Theraclone or PharmAthene if an injunction, order, decree or ruling of a Governmental Entity of competent jurisdiction shall have been entered permanently restraining, enjoining or otherwise prohibiting the consummation of the Merger and such injunction shall have become final and non-appealable (the "Transaction Prohibition Termination Right"); provided, however, that the right to terminate this Agreement under this Section 8.1(c) shall not be available to any party whose material breach of a representation, warranty, covenant or agreement in this Agreement has been a principal cause of the entry of such final and non-appealable injunction, order, decree or ruling;

(d) by either PharmAthene or Theraclone if the PharmAthene Meeting (including any postponements or adjournments thereof) shall have concluded and the PharmAthene Stockholder Approval shall not have been obtained (the "PharmAthene Stockholder Failure to Consent Termination Right"); provided, however, that the right to terminate this Agreement under this Section 8.1(d)) shall not be available to PharmAthene where the failure to obtain approval of the PharmAthene Stockholder Approval Matters at the PharmAthene Meeting is caused by any action or failure to act on the part of PharmAthene that constitutes a breach of this Agreement;

(e) by Theraclone, if PharmAthene shall have breached or failed to perform any of its representations, warranties, covenants or agreements set forth in this Agreement or any of such representations and warranties shall have become untrue as of any date subsequent to the date of this Agreement, which breach, failure to perform or untruth (i) would give rise to the failure of a condition set forth in Section 7.2(a) or Section 7.2(c) (assuming, in the case of any untruth, that such subsequent date was the Closing Date) and (ii) is not capable of being cured prior to the Closing or, if capable of being cured, shall not have been cured by PharmAthene by the 30th calendar day following receipt of written notice of such breach or failure to perform from Theraclone (the "PharmAthene Breach Termination Right"); provided, however, that Theraclone shall not be entitled to terminate this Agreement under this Section 8.1(e) if Theraclone is then in breach of its representations, warranties, covenants or agreements contained in this Agreement, which breach would give rise to the failure of a condition to Closing set forth in Section 7.3(a) or Section 7.3(c) (assuming, in the case of any untruth, that such subsequent date was the date of termination);

(f) by Theraclone, if (i) the PharmAthene Board of Directors (or any committee thereof) shall have effected a PharmAthene Recommendation Withdrawal or a Transaction Event Withdrawal, (ii) PharmAthene shall have failed to include the PharmAthene Recommendation in the Proxy Statement, (iii) the PharmAthene Board of Directors (or any committee thereof) shall have recommended or approved any PharmAthene Takeover Proposal, (iv) the PharmAthene Board of Directors shall have failed to publicly reaffirm the PharmAthene Recommendation within four (4) Business Days following receipt of a written request by Theraclone to provide such reaffirmation following a PharmAthene Takeover Proposal or (v) PharmAthene shall have otherwise breached Section 6.3 in any material respect (the "PharmAthene Recommendation Withdrawal Termination Right");

(g) by PharmAthene, if Theraclone shall have breached or failed to perform any of its representations, warranties, covenants or agreements set forth in this Agreement or any of such representations and warranties shall have become untrue as of any date subsequent to the date of this Agreement, which breach, failure to perform or untruth (i) would give rise to the failure of a condition set forth in Section 7.3(a) or Section 7.3(b) (assuming, in the case of any untruth, that such subsequent date was the Closing Date) and (ii) is not capable of being cured prior to the Closing or, if capable of being cured, shall not have been cured by Theraclone by the 30th calendar day following receipt of written notice of such breach or failure to perform from PharmAthene (the "Theraclone Breach Termination Right"); provided, however, that PharmAthene shall not be entitled to terminate this Agreement under this Section 8.1(g) if PharmAthene is then in breach of its representations, warranties, covenants or agreements contained in this Agreement, which breach would give rise to the failure of a condition to Closing set forth in Section 7.2(a) or Section 7.2(c) (assuming, in the case of any untruth, that such subsequent date was the date of termination); or

(h) by PharmAthene (i) prior to the receipt of the PharmAthene Stockholder Approval, if the PharmAthene Board of Directors shall have approved, and PharmAthene shall promptly following such termination enter into, a definitive agreement providing for a PharmAthene Superior Proposal (the "PharmAthene Superior Proposal Termination Right") or (ii) pursuant to a Transaction Event Withdrawal; provided, however, that (i) PharmAthene shall have complied with the provisions of, the procedures set forth in and its obligations under Section 6.3(c) and Section 6.3(d); and (ii) PharmAthene shall have immediately prior to such termination made the payment required by Section 8.2.

Section 8.2 Effect of Termination.

(a) If this Agreement is terminated by:

(i) PharmAthene pursuant to its PharmAthene Superior Proposal Termination Right, PharmAthene shall pay, or cause to be paid to Theraclone, immediately prior to such termination, cash in an amount equal to $3,500,000 (the "Tier 1 Breakup Fee");

(ii) Theraclone pursuant to the PharmAthene Recommendation Withdrawal Termination Right if the PharmAthene Board of Directors has effected the Transaction Event Withdrawal, PharmAthene shall pay, or cause to be paid to Theraclone, promptly, and in any event no later than three (3) Business Days following the date of such termination, cash in an amount equal to $4,500,000 (the "Tier 2 Breakup Fee");

(iii) PharmAthene pursuant to a Transaction Event Withdrawal, PharmAthene shall pay, or cause to be paid to Theraclone, promptly, and in any event no later than three (3) Business Days following the date of such termination, the Tier 2 Breakup Fee;

(iv) either PharmAthene or Theraclone pursuant to either the Outside Closing Date Termination Right or the PharmAthene Stockholder Failure to Consent Termination Right and at any time prior to the PharmAthene Meeting a PharmAthene Takeover Proposal has been publicly announced, disclosed, made, proposed or communicated and within nine (9) months after the date of the termination of this Agreement, PharmAthene enters into an agreement or understanding (including a letter of intent) with respect to any PharmAthene Takeover Proposal which is subsequently consummated, PharmAthene shall pay, or cause to be paid to Theraclone, no later than three (3) Business Days after consummation of such PharmAthene Takeover Proposal, cash in an amount equal to the Tier 1 Breakup Fee;

(v) either PharmAthene or Theraclone for any reason set forth in Section 8.1 above (including if Theraclone has terminated pursuant to the PharmAthene Recommendation Withdrawal Termination Right because the PharmAthene Board of Directors has effected a Transaction Event Withdrawal) other than the Theraclone Breach Termination Right or Transaction Prohibition Termination Right, PharmAthene shall pay, or cause to be paid to Theraclone, promptly, and in any event no later than three (3) Business Days following the production of verifiable evidence therefor, cash in an amount equal to the Termination Fee; and

(vi) PharmAthene pursuant to its Theraclone Breach Termination Right, by either party pursuant to the Transaction Prohibition Termination Right, or upon the mutual consent of the parties, PharmAthene shall not be required to pay the Tier 1 Breakup Fee, the Tier 2 Breakup Fee or Termination Fee to Theraclone.

(b) For the avoidance of doubt, in no event shall PharmAthene be required to pay the Termination Fee, the Tier 1 Breakup Fee or the Tier 2 Breakup Fee on more than one occasion. Any such payment of a Termination Fee, Tier 1 Breakup Fee and/or Tier 2 Breakup Fee shall be made by wire transfer of immediately available funds to an account designated in writing by Theraclone or, if no such account is designated, by bank check.

(c) If PharmAthene fails to pay when due any amount payable by PharmAthene under Section 8.2(a), then (i) PharmAthene shall reimburse Theraclone for reasonable costs and expenses (including reasonable fees and disbursements of counsel) incurred in connection with the collection of such overdue amount and the enforcement by Theraclone of its rights under this Section 8.2, and (ii) PharmAthene shall pay to

Theraclone interest on such overdue amount (for the period commencing as of the date such overdue amount was originally required to be paid and ending on the date such overdue amount is actually paid to Theraclone in full) at a rate per annum equal to the "U.S. Prime Rate" (as published in the Wall Street Journal) in effect on the date such overdue amount was originally required to be paid.

(d) On any termination of this Agreement pursuant to Section 8.1, this Agreement shall terminate (except for the provisions of this Section 8.2 and Section 9.3 through Section 9.13), and, subject to the payment of any amounts owing pursuant to this Section 8.2, and there shall be no other liability on the part of Theraclone or PharmAthene to the other except as provided in the Confidentiality Agreement. Notwithstanding the foregoing, to the extent that any termination of this Agreement results from the willful and material breach by a party of any representation or warranty or covenant set forth in this Agreement, then such party shall be liable for any damages incurred or suffered by the other party as a result of such breach.

## ARTICLE IX

## MISCELLANEOUS

Section 9.1 Expenses. Except as otherwise explicitly set forth in Section 8.2 or elsewhere in this Agreement, whether or not the Merger is consummated, all costs and expenses incurred in connection with the Merger, this Agreement and the transactions contemplated hereby shall be paid by the party incurring or required to incur such expenses.

Section 9.2 Counterparts; Effectiveness. This Agreement may be executed in counterparts, each of which will constitute an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and will become effective when one or more counterparts have been signed by each of the parties and delivered (by facsimile, e-mail or otherwise) to the other parties.

Section 9.3 Governing Law. This Agreement will be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.

Section 9.4 Specific Performance; Jurisdiction; Enforcement. The parties agree that irreparable damage would occur if any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement exclusively in the Court of Chancery in the State of Delaware, or if (but only if) that court does not have subject matter jurisdiction over such action or proceeding, in the United States District Court for the District of Delaware. In addition, each of the parties hereto irrevocably agrees that any legal action or proceeding with respect to this Agreement and the rights and obligations arising hereunder, or for recognition and enforcement of any judgment in respect of this Agreement and the rights and obligations arising hereunder brought by the other party hereto or its successors or assigns, shall be brought and determined exclusively in the Court of Chancery in the State of Delaware, or if (but only if) that court does not have subject matter jurisdiction over such action or proceeding, in the United States District Court for the District of Delaware. Each of the parties hereto hereby irrevocably submits with regard to any such action or proceeding for itself and in respect of its property, generally and unconditionally, to the personal jurisdiction of the aforesaid courts and agrees that it will not bring any action relating to this Agreement or any of the transactions contemplated by this Agreement in any court other than the aforesaid courts. Each of the parties hereto hereby irrevocably waives, and agrees not to assert, by way of motion, as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement, (a) any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason other than the failure to serve in accordance with this Section 9.4, (b) any claim that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) and (c) to the fullest extent permitted by the applicable law, any claim that (i) the suit, action or proceeding in such court is brought in an

inconvenient forum, (ii) the venue of such suit, action or proceeding is improper or (iii) this Agreement, or the subject matter of this Agreement, may not be enforced in or by such courts.

Section 9.5 WAIVER OF JURY TRIAL. EACH OF THE PARTIES HERETO IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT.

Section 9.6 Notices. Any notice required to be given hereunder shall be sufficient if in writing, and sent by facsimile transmission (provided that any notice received by facsimile transmission or otherwise at the addressee's location on any Business Day after 5:00 p.m. (addressee's local time) shall be deemed to have been received at 9:00 a.m. (addressee's local time) on the next Business Day), by reliable overnight delivery service (with proof of service), hand delivery or certified or registered mail (return receipt requested and first-class postage prepaid), addressed as follows:

(a) To PharmAthene or Merger Sub:

PharmAthene, Inc.
One Park Place
Suite #450
Annapolis, MD 21401
Telecopy: 410-269-2601
Attention: General Counsel

with a copy to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020-1089
Telecopy: (212) 768-7800
Attention: Jeffrey A. Baumel, Esq.
Stephan J. Mallenbaum, Esq.

(b) To Theraclone:

Theraclone Sciences, Inc.
Seattle Life Sciences Building
1124 Columbia Street, Suite 300
Seattle, WA 98104
Telecopy: 206-805-1699
Attention: Chief Executive Officer

with a copy to:

Fenwick & West LLP
1191 Second Avenue, 10th Floor
Seattle, WA 98101
Telecopy: (206) 389-4511
Attention: Stephen M. Graham

or to such other address as any party shall specify by written notice so given, and such notice shall be deemed to have been delivered as of the date so telecommunicated, personally delivered or mailed. Any party to this Agreement may notify any other party of any changes to the address or any of the other details specified in this paragraph; provided, however, that such notification shall only be effective on the date specified in such notice or five (5) business days after the notice is given, whichever is later. Rejection or other refusal to accept or the inability to deliver because of changed address of which no notice was given will be deemed to be receipt of the notice as of the date of such rejection, refusal or inability to deliver.

Section 9.7 Assignment; Binding Effect. Neither this Agreement nor any of the rights, interests or obligations hereunder may be assigned by any of the parties hereto (whether by operation of law or otherwise) without the prior written consent of the other parties. Subject to the preceding sentence, this Agreement is binding upon and inures to the benefit of the parties hereto and their respective successors and assigns.

Section 9.8 Severability. Any term or provision of this Agreement which is invalid or unenforceable in any jurisdiction will, as to that jurisdiction, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions of this Agreement and without rendering invalid or unenforceable any terms in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, it is the parties' intent that such provision will be interpreted to be only so broad as is enforceable.

Section 9.9 Entire Agreement; No Third-Party Beneficiaries. This Agreement (including the exhibits and schedules hereto) and the Confidentiality Agreement constitute the entire agreement, and supersede all other prior agreements and understandings, both written and oral, between the parties hereto, or any of them, with respect to the subject matter of this Agreement and thereof. This Agreement, except for Section 6.9, which is intended to be for the benefit of the persons covered thereby and may be enforced by such persons, is not intended to and shall not confer upon any person other than the parties hereto any rights or remedies hereunder. No representation, warranty, inducement, promise, understanding or condition not set forth in this Agreement has been made or relied upon by any of the parties hereto.

Section 9.10 Amendments; Waivers. At any time prior to the Effective Time, any provision of this Agreement may be amended or waived if, and only if, such amendment or waiver is in writing and signed, in the case of an amendment, by Theraclone, PharmAthene and Merger Sub, or in the case of a waiver, by the party against whom the waiver is to be effective; provided, however, that after receipt of the Theraclone Stockholder Approval, if any such amendment or waiver shall by applicable Law or in accordance with the rules and regulations of NYSE MKT LLC require further approval of the stockholders of Theraclone, the effectiveness of such amendment or waiver will be subject to the approval of the stockholders of Theraclone; provided, further, however, that after the receipt of the PharmAthene Stockholder Approval, if any such amendment or waiver shall by applicable law or in accordance with the rules and regulations of NYSE MKT LLC require further approval by the stockholders of PharmAthene, the effectiveness of such amendment or waiver will be subject to the approval of the stockholders of PharmAthene. Notwithstanding the foregoing, no failure or delay by Theraclone or PharmAthene in exercising any right hereunder will operate as a waiver thereof nor will any single or partial exercise thereof preclude any other or further exercise of any other right hereunder.

Section 9.11 Headings. Headings of the Articles and sections of this Agreement are for convenience of the parties only and will be given no substantive or interpretive effect whatsoever. The table of contents to this Agreement is for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement.

Section 9.12 Interpretation. When a reference is made in this Agreement to an Article or section, such reference shall be to an Article or section of this Agreement unless otherwise indicated. Whenever the words "include," "includes" or "including" are used in this Agreement, they will be deemed to be followed by the words "without limitation." The words "hereof," "herein" and "hereunder" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. All terms defined in this Agreement will have those defined meanings when used in any certificate or other document made or delivered pursuant hereto unless otherwise defined therein. The definitions contained in this Agreement are applicable to the singular as well as the plural forms of such terms and to the masculine as well as to the feminine and neuter genders of such term. Any agreement, instrument or statute defined or referred to herein or in any agreement or instrument that is referred to herein means such agreement, instrument or statute as from time to time amended, modified or supplemented, including (in the case of agreements or instruments) by waiver or consent and (in the case of statutes) by succession of comparable successor statutes and references to all attachments thereto and instruments incorporated therein. Each of the parties has participated in the drafting and negotiation of this Agreement. If an ambiguity or question of intent or interpretation arises, this Agreement must be construed as if it is drafted by all the parties, and no

presumption or burden of proof will arise favoring or disfavoring any party by virtue of authorship of any of the provisions of this Agreement. References in this Agreement to specific laws or to specific provisions of laws include all rules and regulations promulgated thereunder. Any statute defined or referred to herein or in any agreement or instrument referred to herein means such statute as from time to time amended, modified or supplemented, including by succession of comparable successor statutes.

Section 9.13 Definitions. As used in this Agreement (except as specifically otherwise defined):

(a) "Acceptable PharmAthene Confidentiality Agreement" means a confidentiality agreement that contains confidentiality provisions that are no less favorable in any material respect to PharmAthene than those contained in the Confidentiality Agreement and includes a "standstill" provision;

(b) "affiliates" mean, as to any person, any other person which, directly or indirectly, controls, or is controlled by, or is under common control with, such person. As used in this definition, "control" (including, with its correlative meanings, "controlled by" and "under common control with") means the possession, directly or indirectly, of the power to direct or cause the direction of management or policies of a person, whether through the ownership of securities or partnership or other ownership interests, by contract or otherwise;

(c) "Business Day" means any day other than a Saturday, Sunday or a day on which the banks in Delaware and New York are authorized by law or executive order to be closed;

(d) "Confidentiality Agreement" means that certain Confidentiality Agreement, dated as April 5th, 2013 by and between PharmAthene and Theraclone;

(e) "Environmental Law" means any Law relating to (i) the protection, preservation or restoration of the environment (including air, water vapor, surface water, groundwater, drinking water supply, surface land, subsurface land, plant and animal life or any other natural resource) or (ii) the exposure to, or the use, storage, recycling, treatment, generation, transportation, processing, handling, labeling, production, release or disposal of Hazardous Substances;

(f) "Escrow Shares" means such number of shares of PharmAthene Common Stock that comprise five percent (5%) of the Merger Consideration.

(g) "Form S-4 Registration Statement" shall mean the registration statement on Form S-4 to be filed with the SEC by PharmAthene in connection with issuance of PharmAthene Common Stock in the Merger, as said registration statement may be amended prior to the time it is declared effective by the SEC;

(h) "Fully Diluted Equity" means (i) with respect to PharmAthene, the total number of shares of PharmAthene Common Stock then issued and outstanding, (x) including the full conversion or exercise of all then outstanding options to purchase PharmAthene Common Stock and warrants to purchase PharmAthene Common Stock, in each case, with an exercise price less than or equal to $2.50 per share of PharmAthene Common Stock, (y) excluding all then outstanding options and warrants, in each case, with an exercise price greater than $2.50 per share of PharmAthene Common Stock and (y) including all convertible securities and (ii) with respect to Theraclone, the total number of Theraclone Common Shares then issued and outstanding, including full conversion or exercise of all then outstanding options and warrants and all convertible securities.

*By way of example only, if, as of immediately prior to the Effective Time, there are 51,174,000 shares of PharmAthene Common Stock outstanding and an aggregate of 8,047,000 options to purchase PharmAthene Common Stock and warrants PharmAthene Common Stock with exercise prices equal to or less than $2.50 per share of PharmAthene Common Stock outstanding, then the "Fully Diluted Equity" with respect to PharmAthene is equal to 59,221,000, which is the sum of 51,174,000 and 8,047,000. If Theraclone's "Fully Diluted Equity" is equal to 51,687,000, then the "Exchange Ratio" is equal to approximately 1.1458, which is the quotient obtained by dividing 59,221,000 by 51,687,000.*

(i) "GAAP" means accounting principles generally accepted in the United States;

(j) "Hazardous Substance" means any substance presently listed, defined, designated or classified as hazardous, toxic, radioactive, or dangerous, or otherwise regulated, under any Environmental Law. Hazardous Substance includes any substance to which exposure is regulated by any Governmental Entity or any Environmental Law including any toxic waste, pollutant, contaminant, hazardous substance (including toxic mold), toxic substance, hazardous waste, special waste, industrial substance or petroleum or any derivative or byproduct thereof, radon, radioactive material, asbestos, or asbestos containing material, urea formaldehyde, foam insulation or polychlorinated biphenyls;

(k) "Indebtedness" means (A) all indebtedness for borrowed money (including the issuance of any debt security), (B) any other indebtedness that is evidenced by a note, bond, mortgage debenture or similar instrument, (C) all obligations under capital leases, (D) all obligations in respect of outstanding letters of credit and (E) all guarantee obligations with respect to the foregoing;

(l) "Intellectual Property" means (i) patents, trademarks, service marks, trade names, domain names, copyrights, designs and trade secrets, (ii) applications for and registrations of such patents, trademarks, service marks, trade names, domain names, copyrights and designs, (iii) processes, formulae, methods, schematics, technology, know-how, computer software programs and applications, and (iv) other tangible or intangible proprietary or confidential information and materials;

(m) "knowledge" means (i) with respect to an individual, that such individual is actually aware of the relevant fact and (ii) with respect to any person, that any officer of such person is actually aware of the relevant fact;

(n) "Permitted Liens" means, as to any person, any Lien (A) for Taxes or governmental assessments, charges or claims of payment not yet due or being contested in good faith and for which adequate accruals or reserves have been established, (B) that is a carriers', warehousemen's, mechanics', materialmen's, repairmen's, landlord's or other similar lien arising in the ordinary course of business, (C) that is disclosed on the most recent consolidated balance sheet of such person or notes thereto or securing liabilities reflected on such balance sheet, (D) that was incurred in the ordinary course of business since the date of the most recent consolidated balance sheet of such person, (E) with respect to Leased Real Property, related to the rights of tenants and subtenants under Real Property Leases and Real Property Subleases, including, without limitation, any right of first offer, right of first refusal or options to purchase, (F) with respect to Leased Real Property, that is disclosed by any title commitment, any title policy, survey or other document made available to either PharmAthene or Theraclone, as applicable, (G) that is a title exception, defect, encumbrance or other matter, whether or not of record, which does not materially affect the continued use of the property for the purposes for which the property is currently being used by such person or a Subsidiary of such person as of the date of this Agreement or (H) with respect to any Real Property Lease that affects the interest of the landlord thereunder, which does not materially impair the value or use of such Real Property Lease;

(o) "person" means an individual, a corporation, a partnership, a limited liability company, an association, a trust or any other entity, group (as such term is used in section 13 of the Exchange Act) or organization, including a Governmental Entity, and any permitted successors and assigns of such person;

(p) "PharmAthene Material Adverse Effect" means any change, effect, event, occurrence or state of facts that, individually or in the aggregate, is, or would reasonably be expected to be, (x) materially adverse to the assets, properties, business or financial condition or results of operations of PharmAthene and its Subsidiaries, taken as a whole, but shall not include an effect arising from facts, circumstances, events or changes, (a) generally affecting the pharmaceuticals industry in the United States or the economy or the financial or securities markets in the United States or elsewhere in the world, including governmental, regulatory, social or political conditions or developments (including any outbreak or escalation of hostilities or acts of war, whether or not pursuant to the declaration of a national emergency or war, or acts of terrorism), earthquakes, hurricanes, tsunamis, tornadoes, floods, mudslides, wild fires or other natural disasters, weather conditions and other force majeure events in the United States or any other country or region in the world or changes in interest rates, but, in each case, only to the extent such matters do not have a disproportionate impact on PharmAthene and its Subsidiaries as compared to other participants in their industries or (b) to the extent resulting from (i) the announcement of, or compliance

with, this Agreement or the announcement of the transactions contemplated by this Agreement other than for purposes of Section 4.2 (and the condition contained in Section 7.2(a) with respect thereto), (ii) changes in applicable Law or GAAP or interpretation thereof by a third party, (iii) changes, solely in and of themselves, in the market price or trading volume of the PharmAthene Common Stock (it being understood that the cause of any such changes may be deemed to constitute, in and of itself, a PharmAthene Material Adverse Effect and may be taken into consideration in determining whether a PharmAthene Material Adverse Effect has occurred), (iv) the failure, in and of itself, of PharmAthene to meet any expected or projected financial or operating performance target, but not any underlying cause of such failure (it being understood that the cause of any such failure may be deemed to constitute, in and of itself, a PharmAthene Material Adverse Effect and may be taken into consideration in determining whether a PharmAthene Material Adverse Effect has occurred), or (v) any legal proceedings made or brought by any of the stockholders of PharmAthene (on their own behalf or on behalf of PharmAthene) against PharmAthene arising out of the Merger or in connection with any other transactions contemplated by this Agreement; or (y) prevent or materially delay the performance by PharmAthene of any of its obligations under this Agreement or the consummation of the Merger or the other transactions contemplated by this Agreement;

(q) "PharmAthene Stock Option" means options to purchase PharmAthene Common Stock;

(r) "PharmAthene Superior Proposal" means an unsolicited, *bona fide* written PharmAthene Takeover Proposal, which proposal was not the result of a breach of Section 6.3, made by a third party that is not an affiliate of PharmAthene on terms that the PharmAthene Board of Directors reasonably determines, after consultation with PharmAthene's outside financial advisor and its outside legal counsel, (x) is more favorable from a financial point of view to PharmAthene's stockholders than the Merger and the transactions contemplated hereby, (y) is reasonably likely to be completed and (z) that failing to accept such proposal would be a breach of its fiduciary duties under applicable Law; in each case taking into account, in addition to any other factors determined by the PharmAthene Board of Directors to be relevant, and (i) considering all timing, financial, legal, regulatory and other aspects of such proposal, (ii) the identity of the person making such proposal (including reputation thereof), (iii) the other terms and conditions of such offer or proposal and the implications thereof on the PharmAthene, including relevant legal, regulatory and other aspects of such offer or proposal deemed relevant by the PharmAthene Board of Directors, and (iv) any proposal made by Theraclone in connection therewith or response thereto; provided, however, that any such offer shall not be deemed to be a "PharmAthene Superior Proposal" if any financing required to consummate the transaction contemplated by such offer is not committed and is not reasonably likely of being obtained by such third party as determined by the PharmAthene Board of Directors in its reasonable judgment, or if the consummation of such transaction is contingent on any such financing being obtained;

(s) "PharmAthene Takeover Proposal" means any proposal or offer from any person relating to any (A) direct or indirect acquisition or purchase (including any sale, lease, exchange, transfer or license) of a business or assets that constitutes 50% or more of the net revenues, net income or the assets of PharmAthene and its Subsidiaries on a consolidated basis, (B) direct or indirect acquisition or purchase of 50% or more of the equity capital stock of PharmAthene or any of its Subsidiaries, (C) tender offer or exchange offer that if consummated would result in any person beneficially owning 50% of the equity capital stock of PharmAthene or any of its Subsidiaries or (D) merger, consolidation, business combination, recapitalization, liquidation, dissolution or similar transaction involving PharmAthene or any of its Subsidiaries, in each case that does not include Theraclone following the Merger contemplated by this Agreement;

(t) "Pro Rata Share" means a percentage equal to (i) the Merger Consideration payable to such Theraclone Stockholder divided by (ii) the aggregate Merger Consideration.

(u) "Proxy Statement" means the letter to stockholders of PharmAthene, notice of meeting with respect to the PharmAthene Meeting, proxy statement/prospectus, forms of proxy and any other proxy solicitation materials to be filed with the SEC and distributed to stockholders of PharmAthene in connection with the Merger;

(v) "Sarbanes-Oxley Act" means the Sarbanes-Oxley Act of 2002;

(w) "SEC" means the U.S. Securities and Exchange Commission;

(x) "Subsidiaries" of any party mean any corporation, partnership, association, trust or other form of legal entity of which (i) more than 50% of the outstanding voting securities are on the date of this Agreement directly or indirectly owned by such party, or (ii) such party or any Subsidiary of such party is a general partner (excluding partnerships in which such party or any Subsidiary of such party does not have a majority of the voting interests in such partnership);

(y) "Theraclone Material Adverse Effect" means any change, effect, event, occurrence or state of facts that, individually or in the aggregate, is, or would reasonably be expected to be, (x) materially adverse to the assets, properties, business or financial condition or results of operations of Theraclone, but shall not include an effect arising from facts, circumstances, events or changes, (a) generally affecting the pharmaceuticals industry in the United States or the economy or the financial or securities markets in the United States or elsewhere in the world, including governmental, regulatory, social or political conditions or developments (including any outbreak or escalation of hostilities or acts of war, whether or not pursuant to the declaration of a national emergency or war, or acts of terrorism), earthquakes, hurricanes, tsunamis, tornadoes, floods, mudslides, wild fires or other natural disasters, weather conditions and other force majeure events in the United States or any other country or region in the world or changes in interest rates, but, in each case, only to the extent such matters do not have a disproportionate impact on Theraclone as compared to other participants in their industries or (b) to the extent resulting from (i) the announcement of, or compliance with, this Agreement or the announcement of the transactions contemplated by this Agreement, other than for purposes of Section 3.3 (and the condition contained in Section 7.3(a) with respect thereto), (ii) changes in applicable Law or GAAP or interpretation thereof by a third party, (iii) the failure, in and of itself, of Theraclone to meet any expected or projected financial or operating performance target, but not any underlying cause of such failure (it being understood that the cause of any such failure may be deemed to constitute, in and of itself, a Theraclone Material Adverse Effect and may be taken into consideration in determining whether a Theraclone Material Adverse Effect has occurred), (iv) any legal proceedings made or brought by any of the stockholders of Theraclone (on their own behalf or on behalf of Theraclone) against Theraclone or PharmAthene arising out of the Merger or in connection with any other transactions contemplated by this Agreement; or (y) prevent or materially delay the performance by Theraclone of any of its obligations under this Agreement or the consummation of the Merger or the other transactions contemplated by this Agreement;

(z) "Theraclone Preferred Stock" means the Theraclone's Series A-1 Convertible Preferred Stock and Series B-1 Convertible Preferred Stock;

(aa) "Theraclone Stock Incentive Plan" means Theraclone 2004 Stock Option Plan;

(bb) "Theraclone Stock Option" means options to purchase Theraclone Common Shares;

(cc) "Theraclone Stockholder" or "Theraclone Stockholders" means, individually, all of the stockholders of Theraclone as of the Closing Date and, collectively, all of the stockholders of Theraclone as of the Closing Date;

(dd) "Theraclone Warrants" means warrants to purchase shares of capital stock of Theraclone;

(ee) "Tax Law" means any Law related to Taxes;

(ff) "Taxes" means (x) any and all domestic or non-U.S., federal, state, provincial, municipal, local or other charges in the nature of taxes (together with any and all interest, penalties, additions to tax and additional amounts imposed with respect thereto) imposed by any Governmental Entity, including taxes on or with respect to income, franchises, windfall or other profits, gross receipts, escheat, property, sales, use, capital stock, payroll, employment, unemployment, social security, workers' compensation or net worth, and taxes in the nature of excise, withholding, ad valorem or value added, (y) all liability for the payment of any amounts of the type described in clause (x) as a result of successor liability or as a result of being a member of an affiliated, consolidated, combined, unitary or aggregate group, and (z) all liability for the payment of any amounts as a result of being a party to any tax sharing agreement or as a result of any

express or implied obligation to indemnify any other person with respect to the payment of any amounts of the type described in clause (x) or (y) and (ii) "Tax Return" means any return, report, claim for refund, or similar filing (including the attached schedules) required to be filed with respect to Taxes, including any information return, statement, or declaration of estimated Taxes, and including any amendment thereof; and

(gg) "Termination Fee" means the actual and verifiable out-of-pocket costs and expenses of Theraclone in connection with this Agreement and the transactions contemplated hereby, not to exceed $1,000,000 in the aggregate.

Each of the following terms is defined on the page set forth opposite such term:

| Term | Section |
|---|---|
| Acceptable PharmAthene Confidentiality Agreement | Section 9.13(a) |
| Approving Theraclone Stockholders | Recitals |
| Approving PharmAthene Stockholders | Recitals |
| affiliates | Section 9.13(b) |
| Agreement | Preamble |
| Authorizations | Section 3.22(b) |
| Board Change Date | Section 6.4(b) |
| Board Composition Agreement | Section 7.2(e) |
| Business Day | Section 9.13(c) |
| Cancelled Shares | Section 2.1(b) |
| Certificate of Merger | Section 1.3 |
| Certificates | Section 2.2(a) |
| Certifications | Section 4.4(a) |
| Claiming Party | Section 5.6(a) |
| Closing | Section 1.2 |
| Closing Date | Section 1.2 |
| Code | Section 1.8 |
| Commonly Controlled Entity | Section 3.8(a) |
| Confidentiality Agreement | Section 9.13(d) |
| Contract | Section 3.3(c) |
| Converted Warrant | Section 2.1(h)(iv) |
| DGCL | Recitals |
| Deductible | Section 5.4(a) |
| Dissenting Shares | Section 2.1(f)(i) |
| Drug Laws | Section 3.22(a) |
| Effective Time | Section 1.3 |
| Environmental Law | Section 9.13(e) |
| ERISA | Section 3.8(a) |
| Escrow Agent | Section 5.5(a) |
| Escrow Agreement | Section 7.2(b) |
| Escrow Dividends | Section 5.5(c) |
| Escrow Fund | Section 5.5(a) |
| Escrow Shares | Section 9.13(f) |
| Exchange Act | Section 3.3(b) |
| Exchange Agent | Section 2.2(a) |
| Exchange Fund | Section 2.2(a) |
| Exchange Ratio | Section 2.1(a) |
| FDA | Section 3.22(a) |
| FDCA | Section 3.22(a) |
| Fourth Theraclone Director | Section 6.13(b) |
| Form S-4 Registration Statement | Section 9.13(g) |

| Term | Section |
|---|---|
| Fully Diluted Equity | Section 9.13(h) |
| GAAP | Section 9.13(i) |
| GLP | Section 3.22(c) |
| Government Contract | Section 3.23(a) |
| Governmental Entity | Section 3.3(b) |
| Hazardous Substance | Section 9.13(j) |
| Indebtedness | Section 9.13(k) |
| Indemnification Cap | Section 5.4(b) |
| Indemnification Notice | Section 5.6(a) |
| Indemnification Notice Period | Section 5.6(a) |
| Indemnified Party | Section 6.9(a) |
| Indemnity Period | Section 5.3(a) |
| Intellectual Property | Section 9.13(l) |
| IRS | Section 3.8(b) |
| knowledge | Section 9.13(m) |
| Law | Section 3.6(a) |
| Laws | Section 3.6(a) |
| Leased Real Property | Section 3.15(b) |
| Lien | Section 3.12(f) |
| Losses | Section 5.1 |
| Merger | Recitals |
| Merger Consideration | Section 2.1(a) |
| Merger Sub | Preamble |
| New Plans | Section 6.5(a) |
| Outside Closing Date Termination Right | Section 8.1(b) |
| Participating Employees | Section 6.5(a) |
| Permitted Liens | Section 9.13(n) |
| person | Section 9.13(o) |
| PHSA | Section 3.22(a) |
| PharmAthene | Preamble |
| PharmAthene Affiliate Transactions | Section 4.20 |
| PharmAthene Benefit Plans | Section 4.9(a) |
| PharmAthene Board Charters and Policies | Section 4.1(c) |
| PharmAthene Board Designee | Section 6.13(a) |
| PharmAthene Board of Directors | Recitals |
| PharmAthene Breach Termination Right | Section 8.1(e) |
| PharmAthene Bylaw Amendment | Section 6.4(b) |
| PharmAthene Charter Amendment | Section 4.24 |
| PharmAthene Common Stock | Section 4.3(a) |
| PharmAthene Commonly Controlled Entity | Section 4.9(a) |
| PharmAthene Disclosure Schedule | ARTICLE IV |
| PharmAthene Governmental Contract | Section 4.22(a) |
| PharmAthene Indemnified Persons | Section 5.1 |
| PharmAthene Intellectual Property | Section 4.15(b) |
| PharmAthene Key Employee | Section 4.14(f) |
| PharmAthene Material Adverse Effect | Section 9.13(p) |
| PharmAthene Material Contract | Section 4.18(a)(xix) |
| PharmAthene Meeting | Section 6.4(d) |
| PharmAthene Permits | Section 4.7(b) |
| PharmAthene Post-Signing Returns | Section 6.1(d)(i) |
| PharmAthene Products | Section 4.21(d) |
| PharmAthene Recommendation | Section 4.2(a) |

| Term | Section |
|---|---|
| PharmAthene Recommendation Withdrawal | Section 6.3(b) |
| PharmAthene Recommendation Withdrawal Termination Right | Section 8.1(f) |
| PharmAthene Real Property Subleases | Section 4.16(c) |
| PharmAthene SEC Documents | Section 4.4(a) |
| PharmAthene Stock | Section 2.1(a) |
| PharmAthene Stock Incentive Plan | Section 4.3(a) |
| PharmAthene Stock Option | Section 9.13(q) |
| PharmAthene Stockholder Approval | Section 4.24 |
| PharmAthene Stockholder Approval Matters | Section 4.24 |
| PharmAthene Superior Proposal | Section 9.13(r) |
| PharmAthene Superior Proposal Termination Right | Section 8.1(h) |
| PharmAthene Stockholder Failure to Consent Termination Right | Section 8.1(d) |
| PharmAthene Takeover Proposal | Section 9.13(s) |
| PharmAthene Third Party Intellectual Property | Section 4.15(b) |
| PharmAthene Voting Agreement | Recitals |
| Post-Closing Lock-Up Agreement | Recitals |
| Pro Rata Share | Section 9.13(t) |
| Proxy Statement | Section 9.13(u) |
| Real Property Leases | Section 3.15(b) |
| Real Property Subleases | Section 3.15(c) |
| Representatives | Section 6.2 |
| S-4 Effective Date | Section 6.4(a) |
| Sarbanes-Oxley Act | Section 9.13(v) |
| SEC | Section 9.13(w) |
| Securities Act | Section 3.3(b) |
| Securityholders' Representative | Section 5.7(a) |
| SPD | Section 3.8(b) |
| Subsidiaries | Section 9.13(x) |
| Surviving Subsidiary | Section 1.1 |
| tail | Section 6.9(b) |
| Theraclone | Preamble |
| Theraclone Affiliate Transactions | Section 3.21 |
| Theraclone Approvals | Section 3.3(b) |
| Theraclone Balance Sheet | Section 3.4(a) |
| Theraclone Benefit Plans | Section 3.8(a) |
| Theraclone Board Designee | Section 6.13(a) |
| Theraclone Board of Directors | Recitals |
| Theraclone Breach Termination Right | Section 8.1(g) |
| Theraclone Bylaws | Section 3.1(c) |
| Theraclone Certificate of Incorporation | Section 3.1(c) |
| Theraclone Common Share | Section 2.1(a) |
| Theraclone Common Shares | Section 2.1(a) |
| Theraclone Defined Contribution Plan | Section 6.5(b) |
| Theraclone Disclosure Schedule | ARTICLE III |
| Theraclone Financial Statements | Section 3.4(a) |
| Theraclone Government Contract | Section 3.23(a) |
| Theraclone Intellectual Property | Section 3.14(b) |
| Theraclone Key Employee | Section 3.13(f) |
| Theraclone Material Adverse Effect | Section 9.13(y) |
| Theraclone Material Contracts | Section 3.18(a) |
| Theraclone Permits | Section 3.6(b) |
| Theraclone Post-Signing Returns | Section 6.1(e)(i) |

| Term | Section |
|---|---|
| Theraclone Preferred Shares | Section 3.2(a) |
| Theraclone Preferred Stock | Section 9.13(z) |
| Theraclone Products | Section 3.22(d) |
| Theraclone Recommendation | Section 3.3(a) |
| Theraclone Stock Incentive Plan | Section 9.13(aa) |
| Theraclone Stock Option | Section 9.13(bb) |
| Theraclone Stockholder | Section 9.13(cc) |
| Theraclone Stockholder Approval | Section 3.16 |
| Theraclone Stockholder Approval Matters | Section 3.16 |
| Theraclone Stockholder Written Consent | Section 6.4(c) |
| Theraclone Stockholders | Section 9.13(cc) |
| Theraclone Third Party Intellectual Property | Section 3.14(b) |
| Theraclone Unaudited Interim Balance Sheet | Section 3.4(a) |
| Theraclone Voting Agreement | Recitals |
| Theraclone Warrants | Section 9.13(dd) |
| Tax Law | Section 9.13(ee) |
| Tax Return | Section 9.13(ff) |
| Taxes | Section 9.13(ff) |
| Tier 1 Breakup Fee | Section 8.2(a)(i) |
| Tier 2 Breakup Fee | Section 8.2(a)(ii) |
| Termination Date | Section 6.1(a) |
| Termination Fee | Section 9.13(gg) |
| Third Party Claim | Section 5.6(a) |
| Third Party Claim Notice | Section 5.6(a) |
| Transaction Event | Section 6.3(b) |
| Transaction Event Withdrawal | Section 6.3(b) |
| Transaction Prohibition Termination Right | Section 8.1(c) |
| WARN Act | Section 3.13(e) |

*(Signature page to follow.)*

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered as of the date first above written.

PHARMATHENE, INC.

By:/s/ Eric I. Richman
Name: Eric I. Richman
Title: Chief Executive Officer

TAURUS MERGER SUB, INC.

By:/s/ Eric I. Richman
Name: Eric I. Richman
Title: Chief Executive Officer

*[Signature page to Agreement and Plan of Merger]*

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered as of the date first above written.

THERACLONE SCIENCES, INC.

By:/s/ Clifford J. Stocks
Name: Clifford J. Stocks
Title: Chief Executive Officer

SECURITYHOLDERS' REPRESENTATIVE

/s/ Steven Gillis, Ph.D.
Steven Gillis, Ph.D.

*[Signature page to Agreement and Plan of Merger]*

## ANNEX A

## APPROVING THERACLONE SCIENCES, INC. STOCKHOLDERS

1. Clifford J. Stocks
2. Steven Gillis, Ph. D.
3. ARCH V Entrepreneurs Fund, L. P.
4. ARCH Venture Fund V, L. P.
5. Hutton Living Trust dated 12/10/96
6. Canaan VII L.P.
7. HealthCare Venture, LLC
8. Dr. Wendye Robbins
9. MPM Asset Management Investors 2003 BVIII LLC
10. MPM BioVentures III, L.P.
11. MPM BioVentures GmbH & Co. Beteiligungs KG
12. MPM BioVentures III Parallel Fund, L.P.
13. MPM BioVentures III-QP, L.P.

## ANNEX B

## APPROVING PHARMATHENE, INC. STOCKHOLDERS

1. John M. Gill
2. Brian A. Markison
3. Joel McCleary
4. Eric I. Richman
5. Jeffrey W. Runge, M.D.
6. Mitchel Sayare, Ph.D.
7. Derace L. Schaffer, M.D.
8. Steven St. Peter, M.D.
9. Linda L. Chang
10. Francesca Cook
11. Wayne Morges, Ph.D.
12. Jardan Karp, J.D.

**ANNEX B**

## FORM OF PHARMATHENE, INC. VOTING AND LOCK-UP AGREEMENT

This PHARMATHENE, INC. VOTING AND LOCK-UP AGREEMENT (this "**Agreement**"), dated as of July 31, 2013, is by and between, Theraclone Sciences, Inc., a Delaware corporation (the "**Company**"), and each of the undersigned stockholders (each, a "**Stockholder**," and, collectively, the "**Stockholders**") of PharmAthene, Inc., a Delaware corporation ("**PharmAthene**"), identified on the signature page hereto.

A. The Company, PharmAthene and Taurus Merger Sub, Inc., a Delaware corporation and direct, wholly owned subsidiary of PharmAthene ("**Merger Sub**") and Steven Gillis, Ph.D., solely in its capacity as the representative of the Theraclone Sciences, Inc. Stockholders, are entering into an Agreement and Plan of Merger (as amended from time to time, the "**Merger Agreement**"), dated as of the date hereof, pursuant to which Merger Sub will merge with and into the Company (the "**Merger**"), after which time the Company will be a direct, wholly owned subsidiary of PharmAthene;

B. As of the date hereof, each Stockholder is the Beneficial Owner (as defined below) of, and has the sole right to vote and dispose of, that number of each class of the issued and outstanding capital stock of PharmAthene (the "**PharmAthene Shares**") set forth opposite such Stockholder's name on Schedule A hereto; and

C. Concurrently with the entry by the Company, PharmAthene and Merger Sub into the Merger Agreement, and as a condition and inducement to the willingness of the Company to enter into the Merger Agreement and incur the obligations set forth therein, the Company has required that the Stockholders enter into this Agreement.

Accordingly, and in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein, the parties hereto, intending to be legally bound, hereby agree as follows:

### ARTICLE I.
### Definitions

Capitalized terms used but not defined in this Agreement are used in this Agreement with the meanings given to such terms in the Merger Agreement. In addition, for purposes of this Agreement:

"**Affiliate**" means, with respect to any specified person, a person who, at the time of determination, directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such specified person. For purposes of this Agreement, with respect to a Stockholder, "**Affiliate**" does not include PharmAthene and the persons that directly, or indirectly through one or more intermediaries, are controlled by PharmAthene. For the avoidance of doubt, no officer or director of PharmAthene will be deemed an Affiliate of another officer or director of PharmAthene by virtue of his or her status as an officer or director of PharmAthene.

"**Beneficially Owned**" or "**Beneficial Ownership**" with respect to any securities means having beneficial ownership of such securities (as determined pursuant to Rule 13d-3 under the Exchange Act, disregarding the phrase "within 60 days" in paragraph (d)(1)(i) thereof), including pursuant to any agreement, arrangement or understanding, whether or not in writing. Without duplicative counting of the same securities, securities Beneficially Owned by a person include securities Beneficially Owned by (i) all Affiliates of such person, and (ii) all other persons with whom such person would constitute a "group" within the meaning of Section 13(d) of the Exchange Act and the rules promulgated thereunder.

"**Beneficial Owner**" with respect to any securities means a person that has Beneficial Ownership of such securities.

"**person**" has the meaning ascribed thereto in the Merger Agreement.

"**Subject Shares**" means, with respect to a Stockholder, without duplication, (i) the PharmAthene Shares owned by such Stockholder on the date hereof as described on Schedule A, (ii) any additional shares of PharmAthene acquired by such Stockholder, over which such Stockholder acquires Beneficial Ownership from and after the date hereof, whether pursuant to existing stock option agreements, warrants or otherwise, and

(iii) any shares into which the PharmAthene Shares may be converted, exchanges or reclassified. Without limiting the other provisions of this Agreement, in the event that PharmAthene changes the number of PharmAthene Shares issued and outstanding prior to the Termination Date as a result of a reclassification, stock split (including a reverse stock split), stock dividend or distribution, combination, recapitalization, subdivision, or other similar transaction, the number of Subject Shares subject to this Agreement will be equitably adjusted to reflect such change.

"**Transfer**" means, with respect to a security, the sale, transfer, pledge, hypothecation, encumbrance, assignment or disposition of such security or the Beneficial Ownership thereof, and each option, agreement, arrangement or understanding, whether or not in writing, to effect any of the foregoing. As a verb, "**Transfer**" has a correlative meaning.

## ARTICLE II.
## Covenants of Stockholders

2.1 **Irrevocable Proxy.** Concurrently with the execution of this Agreement, each Stockholder agrees to deliver to the Company a proxy in the form attached hereto as Exhibit A (the "**Proxy**"), which will be irrevocable to the extent provided in Section 212 of the Delaware General Corporation Law (the "**DGCL**"), with respect to the Subject Shares referred to therein.

2.2 **Agreement to Vote.**

(a) Except in the case of a Pieces Recommendation Withdrawal or a Transaction Event Withdrawal, in which event each Stockholder may vote as he, she or it determines in his, her or its discretion, each and every meeting of the stockholders of PharmAthene held prior to the Termination Date (as defined in Article VI), however called, and at every adjournment or postponement thereof prior to the Termination Date, or in connection with each and every written consent of, or any other action by, the stockholders of the Company given or solicited prior to the Termination Date, each Stockholder will vote, or provide a consent with respect to, all of the Subject Shares entitled to vote or to consent thereon (i) in favor of the adoption of the Merger Agreement, and any actions required in furtherance thereof, and (ii) against any amendment of PharmAthene's certificate of incorporation or bylaws or any other proposal or transaction involving PharmAthene, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the Merger or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of PharmAthene, and against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty or any other obligation or agreement of PharmAthene or its shareholders under the Merger Agreement.

(b) No Stockholder will enter into any agreement with any person (other than the Company) prior to the Termination Date (with respect to periods prior to or after the Termination Date) directly or indirectly to vote, grant any proxy or give instructions with respect to the voting of, the Subject Shares in respect of the matters described in Section 2.2 hereof, or the effect of which would be inconsistent with or violate any provision contained in this Section 2.2. Any vote or consent (or withholding of consent) by any Stockholder that is not in accordance with this Section 2.2 will be considered null and void, and the provisions of the Proxy will be deemed to take immediate effect.

2.3 **Revocation of Proxies; Cooperation**. Each Stockholder agrees as follows:

(a) Such Stockholder hereby represents and warrants that any proxies heretofore given in respect of the Subject Shares with respect to the matters described in Section 2.2(a) hereof are not irrevocable, and such Stockholder hereby revokes any and all prior proxies with respect to such Subject Shares as they relate to such matters. Prior to the Termination Date, such Stockholder will not directly or indirectly grant any proxies or powers of attorney with respect to the matters set forth in Section 2.2(a) hereof (other than to the Company), deposit any of the Subject Shares or enter into a voting agreement (other than this Agreement) with respect to any of the Subject Shares relating to any matter described in Section 2.2(a).

(b) Such Stockholder will provide any information reasonably requested by the Company or PharmAthene for any regulatory application or filing sought for such transactions.

2.4 **No Transfer of Subject Shares; Publicity**. Each Stockholder agrees that:

(a) It (i) will not Transfer or agree to Transfer any of the Subject Shares or, with respect to any matter described in Section 2.2(a), grant any proxy or power-of-attorney with respect to any of the Subject Shares, (ii) will take all action reasonably necessary to prevent creditors in respect of any pledge of the Subject Shares from exercising their rights under such pledge, and (iii) will not take any action that would make in a material respect any of its representations or warranties contained herein untrue or incorrect or would have the effect of preventing or disabling such Stockholder from performing any of its material obligations hereunder; *provided, however,* that Stockholder may (x) transfer shares to Affiliates or charitable organizations, (y) if Stockholder is an individual, transfer the Subject Shares to any member of Stockholder's immediate family, or to a trust for the benefit of Stockholder or any member of Stockholder's immediate family for estate planning purposes or for the purposes of personal tax planning, and (z) transfer Subject Shares upon the death of Stockholder (any such transferee permitted under clause (w), (x), (y) and (z), a "Permitted Transferee"); *provided, further,* that any such Transfer shall be permitted only if, as a precondition to such Transfer, the Permitted Transferee agrees in writing to be bound by all of the terms of this Agreement.

(b) Unless required by applicable Law or permitted by the Merger Agreement, such Stockholder will not, and will not authorize or direct any of its Affiliates or Representatives to, make any press release or public announcement with respect to this Agreement or the Merger Agreement or the transactions contemplated hereby or thereby, without the prior written consent of the Company in each instance.

## ARTICLE III.
## Representations, Warranties and Additional Covenants of Stockholders

Each Stockholder represents, warrants and covenants to the Company that:

3.1 **Ownership**. Such Stockholder is the sole Beneficial Owner and the record and legal owner of the Subject Shares identified opposite such Stockholder's name on Schedule A and such shares constitute all of the capital stock of PharmAthene Beneficially Owned by such Stockholder. Such Stockholder has good and valid title to all of the Subject Shares, free and clear of all Liens, claims, options, proxies, voting agreements and security interests and has the sole right to such Subject Shares and there are no restrictions on rights of disposition or other Liens pertaining to such Subject Shares. None of the Subject Shares is subject to any voting trust or other contract with respect to the voting thereof, and no proxy, power of attorney or other authorization has been granted with respect to any of such Subject Shares.

3.2 **Authority and Non-Contravention**.

(a) Such Stockholder has all necessary power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby. The execution and delivery of this Agreement by such Stockholder and the consummation by such Stockholder of the transactions contemplated hereby have been duly and validly authorized by all necessary action, and no other proceedings on the part of such Stockholder are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) Assuming due authorization, execution and delivery of this Agreement by the Company, this Agreement has been duly and validly executed and delivered by such Stockholder and constitutes the legal, valid and binding obligation of such Stockholder, enforceable against such Stockholder in accordance with its terms except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(c) Such Stockholder is not nor will it be required to make any filing with or give any notice to, or to obtain any consent from, any person in connection with the execution, delivery or performance of this Agreement or obtain any permit or approval from any Governmental Entity for any of the transactions contemplated hereby, except to the extent required by Section 13 or Section 16 of the Exchange Act and the rules promulgated thereunder.

(d) Neither the execution and delivery of this Agreement by such Stockholder nor the consummation of the transactions contemplated hereby will directly or indirectly (whether with notice or lapse of time or both) (i) conflict with, result in any violation of or constitute a default by such Stockholder under any mortgage, bond, indenture, agreement, instrument or obligation to which such Stockholder is a party or by which it or any of the Subject Shares are bound, or violate any permit of any Governmental Entity, or any applicable Law to which such Stockholder, or any of the Subject Shares, may be subject, or (ii) result in the imposition or creation of any Lien upon or with respect to any of the Subject Shares; except, in each case, for conflicts, violations, defaults or Liens that would not individually or in the aggregate be reasonably expected to prevent or materially impair or delay the performance by such Stockholder of its obligations hereunder.

(e) Such Stockholder has sole voting power and sole power to issue instructions with respect to the matters set forth in Article II hereof and sole power to agree to all of the matters set forth in this Agreement, in each case with respect to all of the Subject Shares, with no limitations, qualifications or restrictions on such rights.

3.3 **Total Shares**. Except as set forth on Schedule A, no Stockholder is the Beneficial Owner of, and does not have (whether currently, upon lapse of time, following the satisfaction of any conditions, upon the occurrence of any event or any combination of the foregoing) any right to acquire, any PharmAthene Shares or any securities convertible into or exchangeable or exercisable for PharmAthene Shares. No Stockholder has any other interest in or voting rights with respect to any PharmAthene Shares or any securities convertible into or exchangeable or exercisable for PharmAthene Shares.

3.4 **Reliance**. Each Stockholder understands and acknowledges that the Company is entering into the Merger Agreement in reliance upon Stockholders' execution, delivery and performance of this Agreement.

## ARTICLE IV.
## Representations, Warranties and Covenants of the Company

The Company represents, warrants and covenants to Stockholders that:

(a) The Company has all necessary corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder. The execution and delivery by the Company of this Agreement and the consummation by the Company of the transactions contemplated hereby have been duly and validly authorized by the Company and no other corporate proceedings on the part of the Company are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) Assuming due authorization, execution and delivery of this Agreement by the Stockholders, this Agreement has been duly and validly executed and delivered by the Company and constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

## ARTICLE V.
## Dissenters' Rights.

5.1 Stockholder agrees not to exercise any rights of appraisal or any dissenters' rights that Stockholder may have (whether under applicable Law or otherwise) or could potentially have or acquire in connection with the Merger.

## ARTICLE VI.
## Term and Termination

6.1 This Agreement will become effective upon its execution by the Stockholders and the Company. This Agreement will terminate upon the earliest of (a) the Effective Time, (b) the termination of the Merger Agreement in accordance with Article VIII thereof, (c) written notice by the Company to the Stockholders of the termination of this Agreement, or (d) any PharmAthene Recommendation Withdrawal or Transaction Event Withdrawal (the date of the earliest of the events described in clauses (a), (b), (c), and (d), the "**Termination Date**"). Notwithstanding the foregoing, Article VII of this Agreement shall survive any termination hereof.

## ARTICLE VII.
## General Provisions

7.1 **Action in Stockholder Capacity Only**. Each Stockholder is entering into this Agreement solely in such Stockholder's capacity as a record holder and beneficial owner, as applicable, of the Subject Shares and not in such Stockholder's capacity as a director or officer of PharmAthene. Notwithstanding any asserted conflict, nothing herein will limit or affect any Stockholder's ability to act as an officer or director of PharmAthene, including, if Stockholder is a director of PharmAthene, its ability to vote in favor of a PharmAthene Recommendation Withdrawal or Transaction Event Withdrawal, or to make any presentations to the PharmAthene Board of Directors or take any other action that he or she determines to be necessary or appropriate in his or her discretion, without regard to this Agreement or any conflict of interest.

7.2 **No Ownership Interest**. Nothing contained in this Agreement will be deemed to vest in the Company or any of its Affiliates any direct or indirect ownership or incidents of ownership of or with respect to the Subject Shares. All rights, ownership and economic benefits of and relating to the Subject Shares will remain and belong to the Stockholders, and neither the Company nor any of its Affiliates will have any authority to manage, direct, superintend, restrict, regulate, govern or administer any of the policies or operations of PharmAthene or exercise any power or authority to direct any Stockholder in the voting of any of the Subject Shares, except as otherwise expressly provided herein or in the Merger Agreement.

7.3 **Notices**. All notices, consents, waivers and other communications under this Agreement must be in writing (including facsimile or similar writing) and must be given:

If to the Company, to:
Theraclone Sciences, Inc.
Seattle Life Sciences Building
1124 Columbia Street, Suite 300
Seattle, WA 98104
Attention: Chief Executive Officer
Facsimile No: (206) 805-1699

with a copy (which will not constitute notice) to:
Fenwick & West LLP
1191 Second Avenue, 10th Floor
Seattle, WA 98101
Attention: Stephen M. Graham
Telecopy: (206) 389-4511

If to any Stockholder, to such Stockholder at its address set forth on Schedule A,

or such other address or facsimile number as a party may hereafter specify for the purpose by notice to the other parties hereto. Each notice, consent, waiver or other communication under this Agreement will be effective only (a) if given by facsimile, when the facsimile is transmitted to the facsimile number specified in this Section and the appropriate facsimile confirmation is received or (b) if given by overnight courier or personal delivery when delivered at the address specified in this Section.

7.4 **Further Actions**. Upon the request of any party to this Agreement, the other party will (a) furnish to the requesting party any additional information, (b) execute and deliver, at their own expense, any other documents and (c) take any other actions as the requesting party may reasonably require to more effectively carry out the intent of this Agreement. Each Stockholder hereby agrees that the Company and PharmAthene may publish and disclose in the Form S-4 Registration Statement and Proxy Statement (including all documents and schedules filed with the SEC) such Stockholder's identity and ownership of Subject Shares and the nature of such Stockholder's commitments, arrangements, and understandings under this Agreement and may further file this Agreement as an exhibit to the Form S-4 Registration Statement or in any other filing made by the Company and/or PharmAthene with the SEC relating to the Merger Agreement or the transactions contemplated thereby. Each Stockholder agrees to notify the Company promptly of any additional shares of capital stock of PharmAthene of which such Stockholder becomes the record or beneficial owner after the date of this Agreement.

7.5 **Entire Agreement and Modification**. This Agreement, the Proxy and any other documents delivered by the parties in connection herewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, between the parties with respect to its subject matter and constitute (along with the documents delivered pursuant to this Agreement) a complete and exclusive statement of the terms of the agreement between the parties with respect to its subject matter. This Agreement may not be amended, supplemented or otherwise modified except by a written document executed by the party against whose interest the modification will operate. The parties will not enter into any other agreement inconsistent with the terms and conditions of this Agreement and the Proxy, or that addresses any of the subject matters addressed in this Agreement and the Proxy.

7.6 **Drafting and Representation**. The parties agree that the terms and language of this Agreement were the result of negotiations between the parties and, as a result, there will be no presumption that any ambiguities in this Agreement will be resolved against any party. Any controversy over construction of this Agreement will be decided without regard to events of authorship or negotiation.

7.7 **Severability**. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without affecting the validity or enforceability of the remaining provisions hereof. Any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision will be interpreted to be only so broad as is enforceable.

7.8 **No Third-Party Rights**. No Stockholder may assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of the Company. The Company may not assign any of its rights or delegate any of its obligations under this Agreement with respect to any Stockholder without the prior written consent of such Stockholder. This Agreement will apply to, be binding in all respects upon, and inure to the benefit of each of the respective successors, personal or legal representatives, heirs, distributes, devisees, legatees, executors, administrators and permitted assigns of any Stockholder and the successors and permitted assigns of the Company. Nothing expressed or referred to in this Agreement will be construed to give any person, other than the parties to this Agreement, any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement except such rights as may inure to a successor or permitted assignee under this Section.

7.9 **Enforcement of Agreement**. Each Stockholder acknowledges and agrees that the Company could be damaged irreparably if any of the provisions of this Agreement are not performed in accordance with their specific terms and that any breach of this Agreement by any Stockholder could not be adequately compensated by monetary damages. Accordingly, each Stockholder agrees that, (a) it will waive, in any action for specific performance, the defense of adequacy of a remedy at law, and (b) in addition to any other right or remedy to which the Company may be entitled, at law or in equity, the Company will be entitled to enforce any provision of this Agreement by a decree of specific performance and to temporary, preliminary and permanent injunctive relief to prevent breaches or threatened breaches of any of the provisions of this Agreement, without posting any bond or other undertaking.

7.10 **Waiver**. The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither any failure nor any delay by a party in exercising any right, power or privilege under this Agreement, the Proxy or any of the documents referred to in this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable Law, (a) no claim or right arising out of this Agreement, the Proxy or any of the documents referred to in this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in a written document signed by the other party, (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given, and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of that party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement, the Proxy or the documents referred to in this Agreement.

7.11 **Governing Law**. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto will be governed by, construed under and enforced in accordance with the laws of the State of Delaware, without giving effect to principles of conflict or choice of laws.

7.12 **Consent to Jurisdiction**. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement, the Proxy or the transactions contemplated hereby or thereby will be brought exclusively in the United States District Court for the District of Delaware or, if such court does not have jurisdiction over the subject matter of such proceeding or if such jurisdiction is not available, in the Court of Chancery of the State of Delaware, County of New Castle, and each of the parties hereby consents to the exclusive jurisdiction of those courts (and of the appropriate appellate courts therefrom) in any suit, action or proceeding and irrevocably waives, to the fullest extent permitted by applicable Law, any objection which it may now or hereafter have to the laying of the venue of any suit, action or proceeding in any of those courts or that any suit, action or proceeding which is brought in any of those courts has been brought in an inconvenient forum. Process in any suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any of the named courts. Without limiting the foregoing, each party agrees that service of process on it by notice as provided in Section 6.3 will be deemed effective service of process. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY.

7.13 **Counterparts**. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. A facsimile or electronic copy of a party's signature printed by a receiving facsimile machine or printer (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

7.14 **Expenses**. Except as otherwise provided in this Agreement, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such expenses.

7.15 **Headings; Construction**. The headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement. In this Agreement (a) words denoting the singular include the plural and vice versa, (b) "it" or "its" or words denoting any gender include all genders and (c) the word "including" means "including without limitation," whether or not expressed.

*[Signature page follows]*

IN WITNESS WHEREOF, the parties hereto have caused this PharmAthene Voting and Lock-Up Agreement to be duly executed as of the day and year first above written.

THE COMPANY: **THERACLONE SCIENCES, INC.**

By: _____

Name:

Title:

STOCKHOLDERS:

_____

John M. Gill

_____

Brian A. Markison

_____

Joel McCleary

_____

Eric I. Richman

_____

Jeffrey W. Runge, M.D.

_____

Mitchel Sayare, Ph.D.

_____

Derace L. Schaffer, M.D.

_____

Steven St. Peter, M.D.

_____

Linda L. Chang

_____

Francesca Cook

_____

Wayne Morges, Ph.D.

_____

Jordan Karp, J.D.

[Signature Page to Voting and Lock-Up Agreement]

## SCHEDULE A

## STOCKHOLDERS

| NAME AND ADDRESS OF STOCKHOLDERS | PHARMATHENE SHARES BENEFICIALLY OWNED |
|---|---|
| John M. Gill | 152,759 |
| Brian A. Markison | 40,000 |
| Joel McCleary | 288,559 |
| Eric I. Richman | 1,098,183 |
| Jeffrey W. Runge, M.D. | 117,700 |
| Mitchel Sayare, Ph.D. | 155,414 |
| Derace L. Schaffer, M.D. | 1,261,043 |
| Steven St. Peter, M.D. | 20,000 |
| Linda L. Chang | 87,500 |
| Francesca Cook | 370,843 |
| Wayne Morges, Ph.D. | N/A |
| Jordan Karp, J.D. | 392,371 |

**EXHIBIT A**

**FORM OF IRREVOCABLE PROXY**

From and after the date hereof and until the Termination Date (as defined below), on which date this proxy will terminate and be of no further force or effect, the undersigned stockholder ("Stockholder") of PharmAthene, Inc., a Delaware corporation ("PharmAthene"), hereby irrevocably (to the full extent permitted by Section 212 of the Delaware General Corporation Law) grants to, and appoints, Theraclone Sciences, Inc., a Delaware corporation (the "Company"), and any designee of the Company, and each of them individually, as the sole and exclusive attorney and proxy of the undersigned, with full power of substitution and re-substitution, to vote the Subject Shares (as defined in the Voting Agreement) of the Stockholder, or grant a consent or approval in respect of the Subject Shares of the Stockholder, in a manner consistent with Section 2.2 of the Voting Agreement (as defined below). Upon the undersigned's execution of this Proxy, any and all prior proxies given by the undersigned with respect to any Subject Shares relating to the voting rights expressly provided herein are hereby revoked and the undersigned agrees not to grant any subsequent proxies with respect to the Subject Shares relating to such voting rights at any time prior to the Termination Date, on which date this proxy will terminate and be of no further force or effect.

This Proxy is irrevocable, is coupled with an interest and is granted pursuant to that certain PharmAthene Voting and Lock-Up Agreement (as amended from time to time, the "Voting Agreement") of even date herewith, by and among the Company and Stockholder, and is granted in consideration of the Company entering into the Merger Agreement (as defined in the Voting Agreement). As used herein, the term "Termination Date," and all capitalized terms used herein and not otherwise defined, will have the meanings set forth in the Voting Agreement. **The Stockholder agrees that this proxy will be irrevocable until the Termination Date, on which date this proxy will terminate and be of no further force or effect, and is coupled with an interest sufficient at law to support an irrevocable proxy and given to the Company as an inducement to enter into the Merger Agreement and, to the extent permitted under applicable law, will be valid and binding on any person to whom Stockholder may transfer any of his, her or its Subject Shares in breach of the Voting Agreement.** The Stockholder hereby ratifies and confirms all that such irrevocable proxy may lawfully do or cause to be done by virtue hereof.

The attorneys and proxies named above, and each of them, are hereby authorized and empowered by the undersigned, at any time prior to the Termination Date, on which date this proxy will terminate and be of no further force or effect, to act as the undersigned's attorney and proxy to vote the Subject Shares, and to exercise all voting and other rights of the undersigned with respect to the Subject Shares (including, without limitation, the power to execute and deliver written consents pursuant to Section 228 of the Delaware General Corporation Law), at every annual, special or adjourned meeting of the stockholders of the Company and in every written consent in lieu of such meeting in a manner consistent with Section 2.2 of the Voting Agreement.

This Proxy will be binding upon the heirs, estate, executors, personal representatives, successors and assigns of Stockholder (including any transferee of any of the Subject Shares), and all authority herein conferred or agreed to be conferred will survive the death or incapacity of the Stockholder.

If any provision of this Proxy or any part of any such provision is held under any circumstances to be invalid or unenforceable in any jurisdiction, then (a) such provision or part thereof will, with respect to such circumstances and in such jurisdiction, be deemed amended to conform to applicable laws so as to be valid and enforceable to the fullest possible extent, (b) the invalidity or unenforceability of such provision or part thereof under such circumstances and in such jurisdiction will not affect the validity or enforceability of such provision or part thereof under any other circumstances or in any other jurisdiction, and (c) the invalidity or unenforceability of such provision or part thereof will not affect the validity or enforceability of the remainder of such provision or the validity or enforceability of any other provision of this Proxy. Each provision of this Proxy is separable from every other provision of this Proxy, and each part of each provision of this Proxy is separable from every other part of such provision.

Dated:

Name:

**ANNEX C**

## FORM OF THERACLONE VOTING AND LOCK-UP AGREEMENT

This THERACLONE VOTING AND LOCK-UP AGREEMENT (this "**Agreement**"), dated as of July 31, 2013, is by and between, PharmAthene, Inc., a Delaware corporation (the "**Company**"), and each of the undersigned stockholders (each, a "**Stockholder**," and, collectively, the "**Stockholders**") of Theraclone Sciences, Inc., a Delaware corporation ("**Theraclone**"), identified on the signature page hereto.

A. The Company, Theraclone and Taurus Merger Sub, Inc., a Delaware corporation and direct, wholly owned subsidiary of the Company ("**Merger Sub**") and Steven Gillis, Ph.D., solely in its capacity as the representative of the Theraclone Stockholders, are entering into an Agreement and Plan of Merger (as amended from time to time, the "**Merger Agreement**"), dated as of the date hereof, pursuant to which Merger Sub will merge with and into Theraclone (the "**Merger**"), after which time Theraclone will be a direct, wholly owned subsidiary of the Company;

B. As of the date hereof, each Stockholder is the Beneficial Owner (as defined below) of, and has the sole (subject to applicable community property laws) right to vote and dispose of, that number of each class of the issued and outstanding capital stock (the "**Theraclone Shares**") of Theraclone set forth opposite such Stockholder's name on Schedule A hereto; and

C. Concurrently with the entry by the Company, Theraclone and Merger Sub into the Merger Agreement, and as a condition and inducement to the willingness of the Company to enter into the Merger Agreement and incur the obligations set forth therein, the Company has required that the Stockholders enter into this Agreement.

Accordingly, and in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein, the parties hereto, intending to be legally bound, hereby agree as follows:

### ARTICLE I.
### Definitions

Capitalized terms used but not defined in this Agreement are used in this Agreement with the meanings given to such terms in the Merger Agreement. In addition, for purposes of this Agreement:

"**Affiliate**" means, with respect to any specified person, a person who, at the time of determination, directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such specified person. For purposes of this Agreement, with respect to a Stockholder, "**Affiliate**" does not include Theraclone and the persons that directly, or indirectly through one or more intermediaries, are controlled by Theraclone. For the avoidance of doubt, no officer or director of Theraclone will be deemed an Affiliate of another officer or director of Theraclone by virtue of his or her status as an officer or director of Theraclone.

"**Beneficially Owned**" or "**Beneficial Ownership**" with respect to any securities means having beneficial ownership of such securities (as determined pursuant to Rule 13d-3 under the Exchange Act, disregarding the phrase "within 60 days" in paragraph (d)(1)(i) thereof), including pursuant to any agreement, arrangement or understanding, whether or not in writing. Without duplicative counting of the same securities, securities Beneficially Owned by a person include securities Beneficially Owned by (i) all Affiliates of such person, and (ii) all other persons with whom such person would constitute a "group" within the meaning of Section 13(d) of the Exchange Act and the rules promulgated thereunder.

"**Beneficial Owner**" with respect to any securities means a person that has Beneficial Ownership of such securities.

"**person**" has the meaning ascribed thereto in the Merger Agreement.

"**Subject Shares**" means, with respect to a Stockholder, without duplication, (i) the Theraclone Shares owned by such Stockholder on the date hereof as described on Schedule A, (ii) any additional shares of Theraclone acquired by such Stockholder, over which such Stockholder acquires Beneficial Ownership from and after the date hereof, whether pursuant to existing stock option agreements, warrants or otherwise, and

(iii) any shares into which the Theraclone Shares may be converted, exchanges or reclassified. Without limiting the other provisions of this Agreement, in the event that Theraclone changes the number of Theraclone Shares issued and outstanding prior to the Expiration Date (as defined below) as a result of a reclassification, stock split (including a reverse stock split), stock dividend or distribution, combination, recapitalization, subdivision, or other similar transaction, the number of Subject Shares subject to this Agreement will be equitably adjusted to reflect such change.

"**Transfer**" means, with respect to a security, the sale, transfer, pledge, hypothecation, encumbrance, assignment or disposition of such security or the Beneficial Ownership thereof, and each option, agreement, arrangement or understanding, whether or not in writing, to effect any of the foregoing. As a verb, "**Transfer**" has a correlative meaning.

## ARTICLE II.
## Covenants of Stockholders

2.1 **Irrevocable Proxy.** Concurrently with the execution of this Agreement, each Stockholder agrees to deliver to the Company a proxy in the form attached hereto as Exhibit A (the "**Proxy**"), which will be irrevocable to the extent provided in Section 212 of the Delaware General Corporation Law, with respect to the Subject Shares referred to therein.

2.2 **Agreement to Vote.**

(a) At each and every meeting of the stockholders of Theraclone held prior to the Expiration Date, however called, and at every adjournment or postponement thereof prior to the Expiration Date, or in connection with each and every written consent of, or any other action by, the stockholders of Theraclone given or solicited prior to the Expiration Date, each Stockholder will vote, or provide a consent with respect to, all of the Subject Shares entitled to vote or to consent thereon (i) in favor of the adoption of the Merger Agreement and any actions required in furtherance thereof, (ii) in favor of the approval of the conversion of all outstanding shares of Theraclone Preferred Stock into Theraclone Common Shares on a 1:1 basis (as of immediately prior to the Effective Time and contingent upon the Merger occurring) pursuant to Theraclone' Restated Certificate of Incorporation, (iii) against any other proposal or transaction involving Theraclone, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the Merger or the transactions contemplated by the Merger Agreement, (iv) against any amendment of Theraclone's certificate of incorporation or bylaws that changes in any manner the voting rights of any capital stock of Theraclone (other than the conversion of Theraclone Preferred Stock into Theraclone Common Shares), and (v) against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty of the Merger Agreement.

(b) No Stockholder will enter into any agreement with any person (other than the Company) prior to the Expiration Date (with respect to periods prior to or after the Expiration Date) directly or indirectly to vote, grant any proxy or give instructions with respect to the voting of, the Subject Shares in respect of the matters described in Section 2.2 hereof, or the effect of which would be inconsistent with or violate any provision contained in this Section 2.2. Any vote or consent (or withholding of consent) by any Stockholder that is not in accordance with this Section 2.2 will be considered null and void, and the provisions of the Proxy will be deemed to take immediate effect.

2.3 **Revocation of Proxies; Cooperation**. Each Stockholder agrees as follows:

(a) Such Stockholder hereby represents and warrants that any proxies heretofore given in respect of the Subject Shares with respect to the matters described in Section 2.2(a) hereof are not irrevocable, and such Stockholder hereby revokes any and all prior proxies with respect to such Subject Shares as they relate to such matters. Prior to the Expiration Date, such Stockholder will not directly or indirectly grant any proxies or powers of attorney with respect to the matters set forth in Section 2.2(a) hereof (other than to the Company), deposit any of the Subject Shares or enter into a voting agreement (other than this Agreement) with respect to any of the Subject Shares relating to any matter described in Section 2.2(a).

(b) Such Stockholder will provide any information reasonably requested by the Company or Theraclone for any regulatory application or filing sought for such transactions.

2.4 **No Transfer of Subject Shares; Publicity**. Each Stockholder agrees that:

(a) It (i) will not Transfer or agree to Transfer any of the Subject Shares or, with respect to any matter described in Section 2.2(a), grant any proxy or power-of-attorney with respect to any of the Subject Shares, (ii) will take all action reasonably necessary to prevent creditors in respect of any pledge of the Subject Shares from exercising their rights under such pledge, and (iii) will not take any action that would make in a material respect any of its representations or warranties contained herein untrue or incorrect or would have the effect of preventing or disabling such Stockholder from performing any of its material obligations hereunder; provided, however, that Stockholder may (w) transfer shares to Affiliates or charitable organizations, (x) if Stockholder is a private equity fund and/or venture capital fund, distribute Subject Shares to its partners, members and equity holders, (y) if Stockholder is an individual, transfer the Subject Shares to any member of Stockholder's immediate family, or to a trust for the benefit of Stockholder or any member of Stockholder's immediate family for estate planning purposes or for the purposes of personal tax planning, and (z) transfer Subject Shares upon the death of Stockholder (any such transferee permitted under clause (w), (x), (y) and (z), a "Permitted Transferee"); provided, further, that any such Transfer shall be permitted only if, as a precondition to such Transfer, the Permitted Transferee agrees in writing to be bound by all of the terms of this Agreement, and provided, further, if Stockholder is a holder of shares of Theraclone Preferred Stock, Stockholder may exchange such shares of Theraclone Preferred Stock for Theraclone Common Shares upon the conversion or deemed conversion of such shares of Theraclone Preferred Stock, which Theraclone Common Shares issued as a result of such conversion will be deemed Subject Shares hereunder; and provided further, that any such Transfer shall be permitted only if made in compliance with applicable securities laws.

(b) Unless required by applicable Law or permitted by the Merger Agreement, such Stockholder will not, and will not authorize or direct any of its Affiliates or Representatives to, make any press release or public announcement with respect to this Agreement or the Merger Agreement or the transactions contemplated hereby or thereby, without the prior written consent of the Company in each instance.

## ARTICLE III.
## Representations, Warranties and Additional Covenants of Stockholders

Each Stockholder represents, warrants and covenants to the Company that:

3.1 **Ownership**. Such Stockholder is the sole Beneficial Owner and the record and legal owner of the Subject Shares identified opposite such Stockholder's name on Schedule A and such shares constitute all of the capital stock of Theraclone Beneficially Owned by such Stockholder. Such Stockholder has good and valid title to all of the Subject Shares, free and clear of all Liens, written claims, options, proxies, voting agreements and security interests and has the sole right to such Subject Shares and there are no restrictions on rights of disposition or other Liens pertaining to such Subject Shares. Except pursuant to (i) that certain Fourth Amended and Restated Stockholders Agreement, dated as of March 11, 2013, between Theraclone and certain holders of its capital stock (the "**Stockholders' Agreement**"), the terms of which Partnership Agreement do not conflict with the terms hereof or the obligations of such Stockholder hereunder, and/or (ii) if Stockholder is a partnership, limited partnership, a limited liability company or similar entity, the rights and interests of persons and entities that own partnership interests, units or other equity interests in Stockholder under the partnership agreement, limited partnership agreement, operating agreement or other governing document governing Stockholder and applicable Law) (a "**Partnership Agreement**"), the terms of which Partnership Agreement do not conflict with the terms hereof or the obligations of such Stockholder hereunder, none of the Subject Shares is subject to any voting trust or other contract with respect to the voting thereof, and no proxy, power of attorney or other authorization has been granted with respect to any of such Subject Shares.

3.2 **Authority and Non-Contravention**.

(a) Such Stockholder has all necessary power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby, including under any Partnership Agreement. If Stockholder is an entity, the execution and delivery of this Agreement by such Stockholder and the consummation by such Stockholder of the transactions contemplated hereby have been duly and validly authorized by all necessary action, including under any

Partnership Agreement, and no other proceedings on the part of such Stockholder are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) Assuming due authorization, execution and delivery of this Agreement by the Company, this Agreement has been duly and validly executed and delivered by such Stockholder and constitutes the legal, valid and binding obligation of such Stockholder, enforceable against such Stockholder in accordance with its terms except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(c) Such Stockholder is not nor will it be required to make any filing with or give any notice to, or to obtain any consent from, any person in connection with the execution, delivery or performance of this Agreement or obtain any permit or approval from any Governmental Entity for any of the transactions contemplated hereby, except to the extent required by Section 13 or Section 16 of the Exchange Act and the rules promulgated thereunder.

(d) Neither the execution and delivery of this Agreement by such Stockholder nor the consummation of the transactions contemplated hereby will directly or indirectly (whether with notice or lapse of time or both) (i) conflict with, result in any violation of or constitute a default by such Stockholder under any mortgage, bond, indenture, agreement, instrument or obligation to which such Stockholder is a party or by which it or any of the Subject Shares are bound, or violate any permit of any Governmental Entity, or any applicable Law to which such Stockholder, or any of the Subject Shares, may be subject, or (ii) result in the imposition or creation of any Lien upon or with respect to any of the Subject Shares; except, in each case, for conflicts, violations, defaults or Liens that would not individually or in the aggregate be reasonably expected to prevent or materially impair or delay the performance by such Stockholder of its obligations hereunder.

(e) Subject to applicable community property laws, such Stockholder has sole voting power and sole power to issue instructions with respect to the matters set forth in Article II hereof and sole power to agree to all of the matters set forth in this Agreement, in each case with respect to all of the Subject Shares, with no limitations, qualifications or restrictions on such rights.

3.3 **Total Shares**. Except as set forth on Schedule A, no Stockholder is the Beneficial Owner of, and does not have (whether currently, upon lapse of time, following the satisfaction of any conditions, upon the occurrence of any event or any combination of the foregoing) any right to acquire, any Theraclone Shares or any securities convertible into or exchangeable or exercisable for Theraclone Shares. Except as set forth in the Stockholders' Agreement and/or in a Partnership Agreement, no Stockholder has any other interest in or voting rights with respect to any Theraclone Shares or any securities convertible into or exchangeable or exercisable for Theraclone Shares.

3.4 **Reliance**. Each Stockholder understands and acknowledges that the Company is entering into the Merger Agreement in reliance upon Stockholders' execution, delivery and performance of this Agreement.

3.5 **Marital Status**. Each married Stockholder shall cause his or her spouse to execute and deliver to the Company a Spousal Consent in the form of that attached hereto, and should any other Stockholder hereafter become married, such Stockholder shall promptly cause his or her spouse to execute and deliver to the Company a Spousal Consent in such form.

## ARTICLE IV.
## Representations, Warranties and Covenants of the Company

The Company represents, warrants and covenants to Stockholders that:

(a) The Company has all necessary corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder. The execution and delivery by the Company of this Agreement and the consummation by the Company of the transactions contemplated hereby have been

duly and validly authorized by the Company and no other corporate proceedings on the part of the Company are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) Assuming due authorization, execution and delivery of this Agreement by the Stockholders, this Agreement has been duly and validly executed and delivered by the Company and constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

**ARTICLE V.**
**Dissenters' Rights.**

5.1 Stockholder agrees not to exercise any rights of appraisal or any dissenters' rights that Stockholder may have (whether under applicable Law or otherwise) or could potentially have or acquire in connection with the Merger.

**ARTICLE VI.**
**Termination of Existing Agreements**

6.1 If and to the extent Stockholder is a party to any of the agreements specified in Schedule B hereto, Stockholder hereby agrees to the termination of such agreements, such termination to be effective immediately prior to the Effective Time.

**ARTICLE VII.**
**Term and Termination**

7.1 This Agreement will become effective upon its execution by the Stockholders and the Company. This Agreement will terminate upon the earliest of (a) the Effective Time, (b) the termination of the Merger Agreement in accordance with Article VIII thereof, or (c) written notice by the Company to the Stockholders of the termination of this Agreement (the date of the earliest of the events described in clauses (a), (b), and (c), the "**Expiration Date**"). Notwithstanding the foregoing, Article IX of this Agreement shall survive any termination hereof.

**ARTICLE VIII.**
**General Provisions**

8.1 **No Ownership Interest**. Nothing contained in this Agreement will be deemed to vest in the Company or any of its Affiliates any direct or indirect ownership or incidents of ownership of or with respect to the Subject Shares. All rights, ownership and economic benefits of and relating to the Subject Shares will remain and belong to the Stockholders, and neither the Company nor any of its Affiliates will have any authority to manage, direct, superintend, restrict, regulate, govern or administer any of the policies or operations of Theraclone or exercise any power or authority to direct any Stockholder in the voting of any of the Subject Shares, except as otherwise expressly provided herein or in the Merger Agreement.

8.2 **Notices**. All notices, consents, waivers and other communications under this Agreement must be in writing (including facsimile or similar writing) and must be given:

If to the Company, to:

PharmAthene, Inc.
One Park Place, Suite #450
Annapolis, MD 21401
Attention: General Counsel
Facsimile No: 410-269-2601

with a copy (which will not constitute notice) to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020-1089
Attention: Jeffrey A. Baumel, Esq.
Stephan J. Mallenbaum, Esq.

Facsimile No.: (212) 768-6800

If to any Stockholder, to such Stockholder at its address set forth on Schedule A,

with a copy (which will not constitute notice) to:

Fenwick & West LLP

1191 Second Avenue, 10th Floor
Seattle, WA 98101
Attention: Stephen M. Graham
Facsimile No.: (206) 389-4511

or such other address or facsimile number as a party may hereafter specify for the purpose by notice to the other parties hereto. Each notice, consent, waiver or other communication under this Agreement will be effective only (a) if given by facsimile, when the facsimile is transmitted to the facsimile number specified in this Section and the appropriate facsimile confirmation is received or (b) if given by overnight courier or personal delivery when delivered at the address specified in this Section.

8.3 **Further Actions**. Upon the request of any party to this Agreement, the other party will (a) furnish to the requesting party any additional information, (b) execute and deliver, at the Company's expense, any other documents and (c) take any other actions as the requesting party may reasonably require to more effectively carry out the intent of this Agreement. Each Stockholder hereby agrees that the Company and Theraclone may publish and disclose in the Form S-4 Registration Statement and Proxy Statement (including all documents and schedules filed with the SEC) such Stockholder's identity and ownership of Subject Shares and the nature of such Stockholder's commitments, arrangements, and understandings under this Agreement and may further file this Agreement as an exhibit to the Form S-4 Registration Statement or in any other filing made by the Company and/or Theraclone with the SEC relating to the Merger Agreement or the transactions contemplated thereby. Each Stockholder agrees to notify the Company promptly of any additional shares of capital stock of Theraclone of which such Stockholder becomes the record or beneficial owner after the date of this Agreement.

8.4 **Entire Agreement and Modification**. This Agreement, the Proxy and any other documents delivered by the parties in connection herewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, between the parties with respect to its subject matter and constitute (along with the documents delivered pursuant to this Agreement) a complete and exclusive statement of the terms of the agreement between the parties with respect to its subject matter. This Agreement may not be amended, supplemented or otherwise modified except by a written document executed by the party against whose interest the modification will operate. The parties will not enter into any other agreement inconsistent with the terms and conditions of this Agreement and the Proxy, or that addresses any of the subject matters addressed in this Agreement and the Proxy.

8.5 **Drafting and Representation**. The parties agree that the terms and language of this Agreement were the result of negotiations between the parties and, as a result, there will be no presumption that any ambiguities in this Agreement will be resolved against any party. Any controversy over construction of this Agreement will be decided without regard to events of authorship or negotiation.

8.6 **Severability**. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without affecting the validity or enforceability of the remaining provisions hereof. Any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision will be interpreted to be only so broad as is enforceable.

8.7 **No Third-Party Rights**. No Stockholder may assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of the Company, except a Transfer by a Stockholder to a Permitted Transferee in accordance with Section 2.4. The Company may not assign any of its rights or delegate any of its obligations under this Agreement with respect to any Stockholder without the prior written consent of such Stockholder. This Agreement will apply to, be binding in all respects upon, and inure to the benefit of each of the respective successors, personal or legal representatives, heirs, distributes, devisees, legatees, executors, administrators and permitted assigns of any Stockholder and the successors and permitted assigns of the Company. Nothing expressed or referred to in this Agreement will be construed to give any person, other than the parties to this Agreement, any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement except such rights as may inure to a successor or permitted assignee under this Section.

8.8 **Enforcement of Agreement**. Each Stockholder acknowledges and agrees that the Company could be damaged irreparably if any of the provisions of this Agreement are not performed in accordance with their specific terms and that any breach of this Agreement by any Stockholder could not be adequately compensated by monetary damages. Accordingly, each Stockholder agrees that, (a) it will waive, in any action for specific performance, the defense of adequacy of a remedy at law, and (b) in addition to any other right or remedy to which the Company may be entitled, at law or in equity, the Company will be entitled to enforce any provision of this Agreement by a decree of specific performance and to temporary, preliminary and permanent injunctive relief to prevent breaches or threatened breaches of any of the provisions of this Agreement, without posting any bond or other undertaking.

8.9 **Waiver**. The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither any failure nor any delay by a party in exercising any right, power or privilege under this Agreement, the Proxy or any of the documents referred to in this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable Law, (a) no claim or right arising out of this Agreement, the Proxy or any of the documents referred to in this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in a written document signed by the other party, (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given, and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of that party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement, the Proxy or the documents referred to in this Agreement.

8.10 **Governing Law**. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto will be governed by, construed under and enforced in accordance with the laws of the State of Delaware, without giving effect to principles of conflict or choice of laws.

8.11 **Consent to Jurisdiction**. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement, the Proxy or the transactions contemplated hereby or thereby will be brought exclusively in the United States District Court for the District of Delaware or, if such court does not have jurisdiction over the subject matter of such proceeding or if such jurisdiction is not available, in the Court of Chancery of the State of Delaware, County of New Castle, and each of the parties hereby consents to the exclusive jurisdiction of those courts (and of the appropriate appellate courts therefrom) in any suit, action or proceeding and irrevocably waives, to the fullest extent permitted by applicable Law, any objection which it may now or hereafter have to the laying of the venue of any suit, action or proceeding in any of those courts or that any suit, action or proceeding which is brought in any of those courts has been brought in an inconvenient forum. Process in any suit, action or proceeding may

be served on any party anywhere in the world, whether within or without the jurisdiction of any of the named courts. Without limiting the foregoing, each party agrees that service of process on it by notice as provided in Section 8.2 will be deemed effective service of process. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY.

8.12 **Counterparts**. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. A facsimile or electronic copy of a party's signature printed by a receiving facsimile machine or printer (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

8.13 **Expenses**. Except as otherwise provided in this Agreement, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such expenses.

8.14 **Headings; Construction**. The headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement. In this Agreement (a) words denoting the singular include the plural and vice versa, (b) "it" or "its" or words denoting any gender include all genders and (c) the word "including" means "including without limitation," whether or not expressed.

*[Signature page follows]*

IN WITNESS WHEREOF, the parties hereto have caused this Theraclone Voting and Lock-Up Agreement to be duly executed as of the day and year first above written.

THE COMPANY:

**PHARMATHENE, INC.**

By: _____
Name:
Title:

STOCKHOLDERS:

**CLIFFORD J. STOCKS**

_____
Name: Clifford J. Stocks

**STEVEN GILLIS, PH.D.**

_____
Name: Steven Gillis, Ph.D.

**ARCH V ENTREPRENEURS FUND, L.P.**

By: _____
Name:
Title:

**ARCH VENTURE FUND V, L.P.**

By: _____
Name:
Title:

**HUTTON LIVING TRUST DATED 12/10/96**

By: _____
Name:
Title:

**CANAAN VII L.P.**

By: _____
Name:
Title:

**HEALTHCARE VENTURES, LLC**

By: _____
Name:
Title:

**DR. WENDYE ROBBINS**

_____
Name: Dr. Wendye Robbins

*[Signature Page to Theraclone Voting and Lock-Up Agreement]*

STOCKHOLDERS:

**MPM ASSET MANAGEMENT INVESTORS 2003 BVIII LLC**

By: _____
Name:
Title:

**MPM BIOVENTURES III, L.P.**

By: _____
Name:
Title:

**MPM BIOVENTURES GMBH & CO. BETEILIGUNGS KG**

By: _____
Name:
Title:

**MPM BIOVENTURES III PARALLEL FUND, L.P.**

By: _____
Name:
Title:

**MPM BIOVENTURES III-QP, L.P.**

By: _____
Name:
Title:

*[Signature Page to Theraclone Voting and Lock-Up Agreement]*

## SCHEDULE A

## STOCKHOLDERS

| NAME AND ADDRESS OF STOCKHOLDERS | THERACLONE SHARESBENEFICIALLY OWNED |
|---|---|
| Clifford J. Stocks | Theraclone Stock Options to purchase up to 2,816,617 Theraclone Common Shares |
| Steven Gillis, Ph.D. | Theraclone Stock Options to purchase up to 1,220,000 Theraclone Common Shares<br>50,000 shares of Series A-1 Convertible Preferred Stock<br>4,045 shares of Series B-1 Convertible Preferred Stock |
| ARCH V Entrepreneurs Fund, L.P. | 185 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 6,693 Theraclone Common Shares<br>14,488 shares of Series A-1 Convertible Preferred Stock<br>48,978 shares of Series B-1 Convertible Preferred Stock<br>Theraclone Warrants to purchase up to 210 shares of Series B-1 Convertible Preferred Stock |
| ARCH Venture Fund V, L.P. | 27,755 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 993,307 Theraclone Common Shares<br>2,174,438 shares of Series A-1 Convertible Preferred Stock<br>7,270,533 shares of Series B-1 Convertible Preferred Stock<br>Theraclone Warrants to purchase up to 30,917 shares of Series B-1 Convertible Preferred Stock |
| Hutton Living Trust dated 12/10/96 | Theraclone Warrants to purchase up to 10,000 Theraclone Common Shares<br>54,045 shares of Series B-1 Convertible Preferred Stock |
| Canaan VII L.P. | Theraclone Warrants to purchase up to 990,000 Theraclone Common Shares<br>7898,517 shares of Series B-1 Convertible Preferred Stock<br>Theraclone Warrants to purchase up to 25,854 shares of Series B-1 Convertible Preferred Stock |
| HealthCare Ventures, LLC | Theraclone Warrants to purchase up to 933,333 Theraclone Common Shares<br>5,241,580 shares of Series B-1 Convertible Preferred Stock<br>Theraclone Warrants to purchase up to 17,158shares of Series B-1 Convertible Preferred Stock |
| Dr. Wendye Robbins | Theraclone Stock Options to purchase up to 121,915 Theraclone Common Shares |
| MPM Asset Management Investors 2003 BVIII LLC | 15,783 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 6,447 Theraclone Common Shares<br>8,693 shares of Series A-1 Convertible Preferred Stock<br>55,145 shares of Series B-1 Convertible Preferred Stock |
| MPM BioVentures III, L.P. | 54,813 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 22,388 Theraclone Common Shares<br>30,192 shares of Series A-1 Convertible Preferred Stock<br>191,508 shares of Series B-1 Convertible Preferred Stock |

| NAME AND ADDRESS OF STOCKHOLDERS | THERACLONE SHARESBENEFICIALLY OWNED |
|---|---|
| MPM BioVentures GmbH & Co. Beteiligungs KG | 68,896 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 28,140 Theraclone Common Shares<br>37,947 shares of Series A-1 Convertible Preferred Stock<br>240,711 shares of Series B-1 Convertible Preferred Stock |
| MPM BioVentures III Parallel Fund, L.P. | 68,896 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 28,140 Theraclone Common Shares<br>37,947 shares of Series A-1 Convertible Preferred Stock<br>240,711 shares of Series B-1 Convertible Preferred Stock |
| MPM BioVentures III-QP, L.P. | 815,224 Theraclone Common Shares<br>Theraclone Warrants to purchase up to 332,969 Theraclone Common Shares<br>449,019 shares of Series A-1 Convertible Preferred Stock<br>2,848,245 shares of Series B-1 Convertible Preferred Stock |

## SCHEDULE B

## TERMINATED AGREEMENTS

- Fourth Amended and Restated Investor Rights Agreement between Theraclone Sciences, Inc. and the persons listed on Schedule 1 thereto, dated March 11, 2013
- Fourth Amended and Restated Stockholders Agreement between Theraclone Sciences, Inc. and individuals and entities listed on Annex 1 thereto, dated March 11, 2013
- Management Rights Agreement between Theraclone Sciences, Inc. and ARCH Venture entities, dated February 6, 2006
- Management Rights Letter Agreement with Healthcare Ventures VIII, L.P. dated March 16, 2007

**EXHIBIT A**

**FORM OF IRREVOCABLE PROXY**

From and after the date hereof and until the Expiration Date (as defined below), the undersigned stockholder ("Stockholder") of Theraclone Sciences, Inc., a Delaware corporation ("Theraclone"), hereby irrevocably (to the full extent permitted by Section 212 of the Delaware General Corporation Law) grants to, and appoints, PharmAthene, Inc., a Delaware corporation (the "Company"), and any designee of the Company, and each of them individually, as the sole and exclusive attorney and proxy of the undersigned, with full power of substitution and re-substitution, to vote the Subject Shares (as defined in the Voting Agreement, as defined below) of the Stockholder, or grant a consent or approval in respect of the Subject Shares of the Stockholder, in a manner consistent with Section 2.2 of the Voting Agreement. Upon the undersigned's execution of this Proxy, any and all prior proxies given by the undersigned with respect to any Subject Shares relating to the voting rights expressly provided herein are hereby revoked and the undersigned agrees not to grant any subsequent proxies with respect to the Subject Shares relating to such voting rights at any time prior to the Expiration Date.

This Proxy is irrevocable, is coupled with an interest and is granted pursuant to that certain Theraclone Voting and Lock-Up Agreement (as amended from time to time, the "Voting Agreement") of even date herewith, by and among the Company and Stockholder, and is granted in consideration of the Company entering into the Merger Agreement (as defined in the Voting Agreement). As used herein, the term "Expiration Date," and all capitalized terms used herein and not otherwise defined, will have the meanings set forth in the Voting Agreement. **The Stockholder agrees that this proxy will be irrevocable until the Expiration Date and is coupled with an interest sufficient at law to support an irrevocable proxy and given to the Company as an inducement to enter into the Merger Agreement and, to the extent permitted under applicable law, will be valid and binding on any person to whom Stockholder may transfer any of his, her or its Subject Shares in breach of the Voting Agreement.** The Stockholder hereby ratifies and confirms all that such irrevocable proxy may lawfully do or cause to be done by virtue hereof.

The attorneys and proxies named above, and each of them, are hereby authorized and empowered by the undersigned, at any time prior to the Expiration Date, to act as the undersigned's attorney and proxy to vote the Subject Shares, and to exercise all voting and other rights of the undersigned with respect to the Subject Shares (including, without limitation, the power to execute and deliver written consents pursuant to Section 228 of the Delaware General Corporation Law), at every annual, special or adjourned meeting of the stockholders of the Company and in every written consent in lieu of such meeting in a manner consistent with Section 2.2 of the Voting Agreement.

This Proxy will be binding upon the heirs, estate, executors, personal representatives, successors and assigns of Stockholder (including any transferee of any of the Subject Shares), and all authority herein conferred or agreed to be conferred will survive the death or incapacity of the Stockholder.

If any provision of this Proxy or any part of any such provision is held under any circumstances to be invalid or unenforceable in any jurisdiction, then (a) such provision or part thereof will, with respect to such circumstances and in such jurisdiction, be deemed amended to conform to applicable laws so as to be valid and enforceable to the fullest possible extent, (b) the invalidity or unenforceability of such provision or part thereof under such circumstances and in such jurisdiction will not affect the validity or enforceability of such provision or part thereof under any other circumstances or in any other jurisdiction, and (c) the invalidity or unenforceability of such provision or part thereof will not affect the validity or enforceability of the remainder of such provision or the validity or enforceability of any other provision of this Proxy. Each provision of this Proxy is separable from every other provision of this Proxy, and each part of each provision of this Proxy is separable from every other part of such provision.

Dated:

Name:
Title:

**STOCKHOLDER AGREEMENT & WRITTEN CONSENT OF THE STOCKHOLEDRS — SPOUSAL CONSENT**

I _____, spouse of _____, have read and approve the foregoing Theraclone Voting and Lock-Up Agreement (the "***Agreement***"). In consideration of the terms and conditions as set forth in the Agreement, I hereby appoint my spouse as my attorney in fact with respect to the exercise of any rights and obligations under the Agreement, and agree to be bound by the provisions of the Agreement insofar as I may have any rights or obligations in the Agreement under the community property laws of the State of Washington or similar laws relating to marital or community property in effect in the state of our residence as of the date of the Agreement.

Date: _____

Signature of Spouse: _____

Printed Name of Spouse: _____

**ANNEX D**

# FORM OF BOARD COMPOSITION AGREEMENT

THIS BOARD COMPOSITION AGREEMENT (this "**Agreement**") is made and entered into as of this **[•]** day of **[•]**, 2013, by and among PharmAthene, Inc., a Delaware corporation (the "**Company**"), and each holder of the Company's Common Stock, $0.0001 par value per share ("**Common Stock**"), listed on Schedule A hereto (the "**Stockholders**").

RECITALS

A. The Company, Taurus Merger Sub, Inc. ("**Merger Sub**"), Theraclone Sciences, Inc. ("**Theraclone**") and Steven Gillis, Ph.D., solely in its capacity as the representative of the Theraclone Stockholders are parties to that certain Agreement and Plan of Merger, dated as of July 31, 2013 (the "**Merger Agreement**"), pursuant to which Merger Sub is to be merged with and into Theraclone, with Theraclone being the surviving entity of such merger and thereby becoming a direct, wholly owned subsidiary of the Company (the "**Merger**"); and

B. In connection with the Merger Agreement and as a condition to the consummation of the transactions contemplated thereby, including the Merger, the Stockholders and the Company desire to enter into this Agreement to, among other things, obligate the Stockholders to vote their respective shares of Common Stock for the election of the members of the board of directors of the Company (the "**Board**") in accordance with the terms of this Agreement.

NOW, THEREFORE, the parties agree as follows:

1. Voting Provisions Regarding Board of Directors.

1.1 Size of the Board. Each Stockholder agrees to vote, or cause to be voted, all Shares (as defined below) owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to ensure that the size of the Board shall be set and remain at nine (9) directors. For purposes of this Agreement, the term "**Shares**" shall mean and include any securities of the Company the holders of which are entitled to vote for members of the Board, including without limitation, all shares of Common Stock, by whatever name called, whether now owned or subsequently acquired by a Stockholder, however acquired, whether through stock splits, stock dividends, reclassifications, recapitalizations, similar events or otherwise.

1.2 Board Composition. Each Stockholder agrees to vote, or cause to be voted, all Shares owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all relevant times, in whatever manner as shall be necessary to ensure that at each annual or special meeting of stockholders of the Company at which an election of directors is held or pursuant to any written consent of the stockholders of the Company, as follows:

(a) effective as of the Effective Time, to cause the board of directors of the Company to consist of nine (9) members, five (5) of whom shall be current directors of the Company (each such person, a "**PharmAthene Board Designee**"), three (3) of whom shall be the persons identified in Section 6.13 of the Theraclone Disclosure Schedule (each such person, a "**Theraclone Board Designee**") and the remaining seat shall be vacant;

(b) to cause the initial vacancy on the Company's board of directors to be filled at Closing or as soon as possible thereafter by a nominee (the "**Fourth Theraclone Director**") approved by a majority of the then-serving Theraclone Board Designees acting in their individual capacities and not in their capacities as directors;

(c) to cause one of the PharmAthene Board Designees (the "**Resigning PharmAthene Board Designee**") to resign upon the earlier of (i) such time as there has been a full settlement or a final, non-appealable resolution of that certain litigation matter between the Company and SIGA Technologies, Inc. (the "**Siga Determination Date**") and (ii) the second anniversary of the Closing, but in no event prior to the first anniversary of the Closing (the "**Resigning PharmAthene Board Designee Resignation Date**");

(d) to cause all vacancies on the Company's board of directors created by the cessation of service of any Theraclone Board Designee to be filled by a nominee approved by the remaining Theraclone Board Designees;

(e) to cause all vacancies on the Company's board of directors created by the cessation of service of any PharmAthene Board Designee to be filled by a nominee approved by the remaining PharmAthene Board Designees;

(f) to cause fifty percent (50%) of the members of all committees of the PharmAthene Board of Directors to be filled by Theraclone Board Designees and where a committee of the PharmAthene Board of Directors is comprised of an odd number of directors, the last director shall be mutually agreed to by the PharmAthene Board Designees and Theraclone Board Designees that are members of such committee;

(g) to obtain the resignations, or to cause the removal without cause, of the directors identified on Section 6.13 of the PharmAthene Disclosure Schedule as of the Closing Date;

(h) to obtain the resignation of the Resigning PharmAthene Board Designee on or before the Resigning PharmAthene Board Designee Resignation Date.

The PharmAthene Board Designees, collectively with the Theraclone Board Designees, may each be referred to as a "**Designee**," and, collectively, as the "**Designees**."

The Resigning PharmAthene Board Designee shall be such person as may be determined by a majority of the PharmAthene Board Designees acting in their individual capacities and not in their capacities as directors.

1.3 Removal and Replacement of Board Members. Each Stockholder also agrees to vote, or cause to be voted, all Shares owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to ensure that:

(a) no PharmAthene Designee elected as a director pursuant to this Agreement may be removed as a director unless such removal is directed or approved by the remaining PharmAthene Designees;

(b) no Theraclone Designee elected as a director pursuant to this Agreement may be removed as a director unless such removal is directed or approved by the remaining Theraclone Designees; and

(c) any vacancies on the Board created by the resignation, removal or death of (i) a PharmAthene Designee shall be filled by the person designated by the remaining PharmAthene Designees, and (ii) a Theraclone Designee shall be filled by the person designated by the remaining Theraclone Designees (and the corresponding definition of "PharmAthene Designee" or "Theraclone Designee" shall be deemed to include such designated replacement director(s), as applicable).

All Stockholders agree to execute any written consents required to perform the obligations of this Agreement, and the Company agrees at the request of any Stockholder to call a special meeting of stockholders of the Company for the purpose of electing directors.

1.4 Proxy Solicitation. If at any time the stockholders of the Company are entitled to vote on the composition of the Board, whether at an annual or special meeting of the stockholders of the Company or pursuant to a written consent, the proposed list of directors then to be voted on or consented to does not include all the PharmAthene Designees and the Theraclone Designees, then the Stockholders agree to take all reasonable action to cause a proposal for the election of a Board comprising the PharmAthene Designees and the Theraclone Designees to be submitted to a vote of the holders of the Company's issued and outstanding voting stock, including preparing and filing with the U.S. Securities and Exchange Commission a proxy statement and distributing the same to the stockholders of the Company and engaging a proxy solicitor to advise on and assist with the solicitation of proxies.

1.5 No Liability for Designation or Election of Directors.

(a) The parties acknowledge and agree that any direction or approval given hereunder by any PharmAthene Designee or Theraclone Designee, including the designation of a person for election as a director of the Company, shall be given solely in such person's individual capacity, and not in such person's capacity as a director, and, notwithstanding any conflict of interest, no PharmAthene Designee or Theraclone Designee, nor any of their respective Affiliates (as defined below), shall have any liability as a result of designating a person for election as a director for any act or omission by such designated person in his or her capacity as a director of the Company, nor shall any Stockholder have any liability as a result of voting for any such designee in accordance with the provisions of this Agreement. Nothing contained herein shall be deemed to require any person to vote in any particular manner in his or her capacity as a member of the Board.

(b) For purposes of this Agreement, an individual, firm, corporation, partnership, association, limited liability company, trust or any other entity (collectively, a "**Person**") shall be deemed an "**Affiliate**" of another Person who, directly or indirectly, controls, is controlled by or is under common control with such Person, including, without limitation, any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person.

2. Remedies.

2.1 Covenants of the Company. The Company agrees to use its best efforts, within the requirements of applicable law, to ensure that the rights granted under this Agreement are effective and that the parties enjoy the benefits of this Agreement. Such actions include, without limitation, the use of the Company's best efforts to cause the nomination and election of the directors as provided in this Agreement.

2.2 Irrevocable Proxy and Power of Attorney. Each party to this Agreement hereby constitutes and appoints as the proxies of the party and hereby grants a power of attorney to the President of the Company, with full power of substitution, with respect to the matters set forth herein, including without limitation, election of the Designees as members of the Board in accordance with Section 1 hereto, and hereby authorizes such person to represent and to vote, if and only if the party (i) fails to vote or (ii) attempts to vote (whether by proxy, in person or by written consent) in a manner that is inconsistent with the terms of this Agreement, all of such party's Shares in favor of the election of the Designees. Each of the proxy and power of attorney granted pursuant to the immediately preceding sentence is given in consideration of the agreements and covenants of the Company and the parties in connection with the transactions contemplated by this Agreement and, as such, each is coupled with an interest and shall be irrevocable unless and until this Agreement terminates or expires pursuant to Section 3 hereof. Each party hereto hereby revokes any and all previous proxies or powers of attorney with respect to the Shares and shall not hereafter, unless and until this Agreement terminates or expires pursuant to Section 3 hereof, purport to grant any other proxy or power of attorney with respect to any of the Shares, deposit any of the Shares into a voting trust or enter into any agreement (other than this Agreement), arrangement or understanding with any person, directly or indirectly, to vote, grant any proxy or give instructions with respect to the voting of any of the Shares, in each case, with respect to any of the matters set forth herein.

2.3 Specific Enforcement. Each party acknowledges and agrees that each other party hereto will be irreparably damaged in the event any of the provisions of this Agreement are not performed by the parties in accordance with their specific terms or are otherwise breached. Accordingly, it is agreed that each of the Company and the Stockholders shall be entitled to an injunction to prevent breaches of this Agreement, and to specific enforcement of this Agreement and its terms and provisions in any action instituted in any court of the United States or any state having subject matter jurisdiction.

2.4 Remedies Cumulative. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

3. Term. This Agreement shall be effective as of the date hereof and shall continue in effect until and shall terminate upon the earliest to occur of (i) the fifth ($5^{th}$) anniversary of the date hereof and (ii) the Siga Determination Date, but not sooner than one year from the Closing.

4. Sale of Securities. Nothing contained herein shall be deemed to affect the right of any party hereto to sell, transfer, dispose of, or otherwise deal in the Shares, provided that (a) in the case of any transfer to an Affiliate, the transferor shall take such steps as may be appropriate to cause such transferee to be bound by the terms hereof, and (b) any transfer to a non-Affiliate shall be free of this Agreement.

5. Miscellaneous.

5.1 Successors and Assigns. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns. Nothing in this Agreement, express or implied, is intended to confer upon any person or entity other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided herein.

5.2 Governing Law. This Agreement shall be governed by, construed and enforced in accordance with, the internal law of the State of Delaware.

5.3 Definitions. Capitalized terms used herein and not otherwise defined herein shall have the same meaning as in the Merger Agreement.

5.4 Counterparts. This Agreement may be executed in counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. A facsimile or electronic copy of a party's signature printed by a receiving facsimile machine or printer (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

5.5 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

5.6 Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt of: (a) personal delivery to the party to be notified; (b) when sent, if sent by electronic mail or facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day; (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (d) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next business day delivery, with written verification of receipt. All communications shall be sent to the Stockholders at their respective addresses as set forth on Schedule A hereto, or to such email address, facsimile number or address as subsequently modified by written notice given in accordance with this Subsection 5.6. All communications shall be sent to the Company at: One Park Place, Suite # 450 Annapolis, MD 21401, Attention: General Counsel, with copies to Dentons US LLP, 1221 Avenue of the Americas, New York, NY 10020-1089, Attention: Jeffrey A. Baumel, Esq. and Stephan J. Mallenbaum, Esq.

5.7 Consent Required to Amend, Terminate or Waive. This Agreement may be amended or terminated and the observance of any term hereof may be waived (either generally or in a particular instance and either retroactively or prospectively) only by a written instrument executed by the Company and the Stockholders holding at least a majority of the Common Stock then held by Stockholders.

5.8 Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default previously or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in

writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

5.9 Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

5.10 Entire Agreement. This Agreement (including the Schedule hereto) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between or among the parties is expressly canceled.

5.11 Further Assurances. At any time or from time to time after the date hereof, the parties agree to cooperate with each other, and at the request of any other party, to execute and deliver any further instruments or documents and to take all such further action as the other party may reasonably request in order to evidence or effectuate the consummation of the transactions contemplated hereby and to otherwise carry out the intent of the parties hereunder.

5.12 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the Court of Chancery in the State of Delaware or if (but only if) that court does not have subject matter jurisdiction to the jurisdiction of the United States District Court for the District of Delaware for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the Court of Chancery in the State of Delaware or if (but only if) that court does not have subject matter jurisdiction to the jurisdiction of the United States District Court for the District of Delaware, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

EACH OF THE PARTIES HERETO IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT.

*[Signature Page Follows]*

IN WITNESS WHEREOF, the parties have executed this Board Composition Agreement as of the date first written above.

**PHARMATHENE, INC.**

By: _____
Name: Eric I. Richman
Title: Chief Executive Officer

**STOCKHOLDERS:**

_____
John M. Gill

_____
Brian A. Markison

_____
Joel McCleary

_____
Eric I. Richman

_____
Jeffrey W. Runge, M.D.

_____
Mitchel Sayare, Ph.D.

_____
Derace L. Schaffer, M.D.

_____
Steven St. Peter, M.D.

_____
Linda L. Chang

_____
Francesca Cook

_____
Wayne Morges, Ph.D.

_____
Jordan Karp, J.D.

**CLIFFORD J. STOCKS**

_____
Name: Clifford J. Stocks

**STEVEN GILLIS, PH.D.**

_____
Name: Steven Gillis, Ph.D.

**SIGNATURE PAGE TO BOARD COMPOSITION AGREEMENT**

**ARCH V ENTREPRENEURS FUND, L.P.**

By: _____
Name:
Title:

**ARCH VENTURE FUND V, L.P.**

By: _____
Name:
Title:

**HUTTON LIVING TRUST DATED 12/10/96**

By: _____
Name:
Title:

**CANAAN VII L.P.**

By: _____
Name:
Title:

**HEALTHCARE VENTURES, LLC**

By: _____
Name:
Title:

**DR. WENDYE ROBBINS**

_____
Name: Dr. Wendye Robbins

**MPM ASSET MANAGEMENT INVESTORS 2003 BVIII LLC**

By: _____
Name:
Title:

**MPM BIOVENTURES III, L.P.**

By: _____
Name:
Title:

**MPM BIOVENTURES GMBH & CO. BETEILIGUNGS KG**

By: _____
Name:
Title:

**MPM BIOVENTURES III PARALLEL FUND, L.P.**

By: _____
Name:
Title:

**MPM BIOVENTURES III-QP, L.P.**

By: _____
Name:
Title:

**SIGNATURE PAGE TO BOARD COMPOSITION AGREEMENT**

**SCHEDULE A**

**STOCKHOLDERS**

| Name and Address | Number of Shares Held |
|---|---|

**ANNEX E**

**FORM OF POST-CLOSING LOCK-UP AGREEMENT**

[Address]

Ladies and Gentlemen:

This Post-Closing Lock-Up Agreement (this "Agreement") is being delivered pursuant to that certain Agreement and Plan of Merger, dated as of July 31, 2013, by and among PharmAthene, Inc., a Delaware corporation ("PharmAthene"), Taurus Merger Sub, Inc., a Delaware corporation and a direct, wholly owned subsidiary of PharmAthene ("Merger Sub") and Theraclone Sciences, Inc., a Delaware corporation ("Theraclone"), and Steven Gillis, Ph.D., solely in its capacity as the representative of the Theraclone Securityholders (the "Merger Agreement"). Capitalized terms used in this Agreement and not otherwise defined herein shall have the meanings ascribed to them in the Merger Agreement. Pursuant to the terms of this Agreement, the undersigned ("Stockholder") is agreeing that all shares of PharmAthene Common Stock issued to Stockholder as Merger Consideration in connection with the Merger, including shares held as of the Closing Date, and shares that may be held in escrow (whether or not released from escrow) and including any shares issued in connection with any stock split, stock dividend, recapitalization, reorganization, or the like (collectively, the "Lock-Up Shares"), shall be subject to the restrictions and obligations as set forth in this Agreement.

As a material inducement to PharmAthene's willingness to enter into the Merger Agreement and for other good and valuable consideration, receipt and sufficiency of which is hereby acknowledged, the undersigned agrees that, without the prior written consent of PharmAthene, the undersigned will not, directly or indirectly offer, sell, pledge, contract to sell (including any short sale), grant any option to purchase or otherwise dispose of any Lock-Up Shares or enter into any Hedging Transaction (as defined below) relating to the Lock-Up Shares (each of the foregoing referred to as a "Disposition") for a period from the date hereof until such restrictions and obligations have lapsed, as provided in the following sentence. The restrictions and obligations set forth in this Agreement shall lapse and be of no further force or effect as to:

(i) thirty-three percent (33%) of the Lock-Up Shares (rounded up to the nearest whole share) on the six month anniversary of the Closing Date,

(ii) thirty-three percent (33%) of the Lock-Up Shares (rounded up to the nearest whole share) on the nine month anniversary of the Closing Date, and

(iii) the balance of the Lock-Up Shares (rounded up to the nearest whole share) on the first anniversary of the Closing Date (together with the dates referenced in subsection (i)-(ii) above, the "Lapse Dates").

The foregoing restrictions are expressly intended to preclude the undersigned from engaging in any Hedging Transaction or other transaction which is designed to or reasonably expected to lead to or result in a Disposition even if the securities would be disposed of by someone other than the undersigned. "Hedging Transaction" means any short sale (whether or not against the box) or any purchase, sale or grant of any right (including, without limitation, any put or call option) with respect to any security (other than a broad-based market basket or index) that includes, relates to or derives any significant part of its value from the Lock-Up Shares.

Notwithstanding the foregoing, the undersigned may transfer any or all of the Lock-Up Shares by (i) gift or to any member of the immediate family of the undersigned or to any trust or partnership for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (including by will or intestate succession), provided that the transferee agrees to be bound in writing by the restrictions set forth herein, and provided further that any such transfer shall not involve a disposition for value, (ii) to any limited partners, members or stockholders of the undersigned, (iii) in transactions relating to shares of PharmAthene Common Stock or other securities convertible or exercisable into shares of PharmAthene Common Stock acquired in open market transactions or pursuant to employee benefit plans or incentive compensation plans after the execution of this Agreement (including, without limitation, the sale of shares in a "same day sale" or

"net exercise" in exercising an option grant or the sale of shares in order to pay withholding taxes upon the vesting of restricted stock units); (iv) in transfers of shares of PharmAthene Common Stock, or any security convertible into or exercisable or exchangeable for Common Stock, to the Company pursuant to agreements under which the Company has the option to repurchase such shares or a right of first refusal with respect to transfers of such shares; and (v) pursuant to a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock; provided, however, that in any such case it shall be a condition to the transfer pursuant to clauses (i) and (ii) above, that the transferee execute an agreement stating that the transferee is receiving and holding the Lock-Up Shares subject to the provisions of this Agreement, and there shall be no further transfer of such Lock-Up Shares except in accordance with this Agreement.

Without limiting the restrictions or obligations herein, any Disposition by the undersigned shall remain at all times subject to applicable securities laws.

The undersigned agrees that PharmAthene may place an appropriate restrictive legend on the stock certificates representing the Lock-Up Shares issued to the undersigned to indicate that such shares are subject to the terms of this Agreement. PharmAthene agrees that it will (or will instruct the transfer agent for PharmAthene to) promptly remove such restrictive legend (a) upon the earlier to occur of (i) the applicable Lapse Date (only with respect to the stock certificates representing such Lock-Up Shares that are no longer subject to the restrictions and obligations of this Agreement) or (ii) the termination of this Agreement pursuant to its terms (with respect to stock certificates representing all of the Lock-Up Shares) or (b) as otherwise expressly contemplated by this Agreement. The undersigned agrees that PharmAthene may, and the undersigned will, with respect to any Lock-Up Shares, cause the transfer agent for PharmAthene to note stop transfer instructions with respect to the Lock-Up Shares on the transfer books and records of PharmAthene.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Agreement. All authority herein conferred or agreed to be conferred shall survive the death or incapacity of the undersigned and any obligations of the undersigned shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

Neither the execution and delivery of this Agreement by the Stockholder nor the consummation of the transactions contemplated hereby will directly or indirectly (whether with notice or lapse of time or both) (i) conflict with, result in any violation of or constitute a default by the Stockholder under any mortgage, bond, indenture, agreement, instrument or obligation to which the Stockholder is a party or by which it or any of the Lock-Up Shares are bound, (ii) violate any applicable Law to which the Stockholder, or any of the Lock-Up Shares, may be subject, or (iii) result in the imposition or creation of any Lien upon or with respect to any of the Lock-Up Shares; except, in each case, for conflicts, violations, defaults or Liens that would not individually or in the aggregate be reasonably expected to prevent or materially impair or delay the performance by such Stockholder of its obligations hereunder.

If Stockholder is married, he or she shall cause his or her spouse to execute and deliver to PharmAthene a Spousal Consent in the form of that attached hereto, and should Stockholder hereafter become married, Stockholder shall promptly cause his or her spouse to execute and deliver to the Company a Spousal Consent in such form.

This Agreement shall terminate immediately and be of no further force or effect upon the earliest to occur of:

(a) immediately prior to the consummation of (i) any acquisition or purchase from PharmAthene by any person (as defined in the Merger Agreement) or group (within the meaning of Section 13(d)(3) of the Securities Exchange Act of 1934, as amended ("Group")) of a 20% or more interest in the total outstanding voting securities of PharmAthene (other than as a result of the Merger), (ii) any merger, consolidation, business combination, share exchange or similar transaction involving PharmAthene pursuant to which the stockholders of PharmAthene immediately preceding such transaction will hold securities representing less than 80% of the total outstanding voting power of the surviving or resulting entity of such transaction (or PharmAthene entity of such surviving or resulting entity) (other than as a result of the Merger), (iii) any sale, lease, exchange, transfer, exclusive license or disposition of assets (including capital stock or other ownership interests in subsidiaries) representing

20% or more of the aggregate fair market value of the consolidated assets of PharmAthene and its subsidiaries taken as a whole, (iv) any spin-off, spin-out, split-up, carve-out or similar event pursuant to which assets representing 20% or more of either the aggregate fair market value of the assets of PharmAthene as of the Closing Date or the business of the PharmAthene as of the Closing Date will be transferred in one or more transactions or (v) the public announcement of a third party regarding a "bear hug" letter sent to PharmAthene or the public announcement of a third party regarding a tender offer for shares of PharmAthene Common Stock;

(b) immediately following the launch of any tender offer or exchange offer that if consummated would result in any person (as defined in the Merger Agreement) or Group beneficially owning securities representing 20% or more of the total outstanding voting power of PharmAthene; or

(c) (i) the filing of a petition by or against PharmAthene under any chapter of the Bankruptcy Reform Act, Title 11 of the United States Code, as amended or recodified from time to time, or under any similar law relating to bankruptcy, insolvency or other relief for debtors, (ii) appointment of a receiver, trustee, custodian or liquidator of or for all or any part of the assets or property of PharmAthene, (iii) the insolvency of PharmAthene, or (iv) the making of a general assignment for the benefit of creditors by PharmAthene.

Very truly yours,

Dated: _____ ____, 2013

_____

Print Name: _____

Acknowledged and Agreed:

PHARMATHENE, INC.

_____

Print Name: _____

**STOCKHOLDER AGREEMENT & WRITTEN CONSENT OF**
**THE STOCKHOLDERS — SPOUSAL CONSENT**

I _____, spouse of _____, have read and approve the foregoing Post-Closing Lock-up Agreement (the "***Agreement***"). In consideration of the terms and conditions as set forth in the Agreement, I hereby appoint my spouse as my attorney in fact with respect to the exercise of any rights and obligations under the Agreement, and agree to be bound by the provisions of the Agreement insofar as I may have any rights or obligations in the Agreement under the community property laws of the State of Washington or similar laws relating to marital or community property in effect in the state of our residence as of the date of the Agreement.

Date: _____

Signature of Spouse: _____

Printed Name of Spouse: _____

**ANNEX FA**

**OPINION OF LEERINK SWANN LLC**

The Board of Directors
PharmAthene, Inc.
One Park Place
Suite #450
Annapolis, MD 21401

Members of the Board of Directors:

We understand that PharmAthene, Inc., a Delaware corporation ("PharmAthene" or the "Company"), Theraclone Merger Sub, Inc., a Delaware corporation and a direct, wholly owned Subsidiary of PharmAthene ("Merger Sub"), Theraclone Sciences, Inc., a Delaware corporation ("Theraclone" or the "Target"), and Steven Gillis, Ph.D., solely in his capacity as the representative of the Theraclone Securityholders (the "Securityholders' Representative") pursuant to that certain Securityholders' Representative Agreement, to be dated as of the date hereof (the "Securityholders' Representative Agreement") are proposing to enter into an Agreement and Plan of Merger (the "Agreement"), pursuant to which Merger Sub will be merged with and into Theraclone, with Theraclone as the surviving corporation (the "Merger"), and as a result of the Merger, Theraclone will become a direct, wholly owned subsidiary of PharmAthene, and each common share, par value $0.001, of Theraclone (the "Theraclone Common Shares," and each, a "Theraclone Common Share") issued and outstanding immediately prior to the Merger shall be converted into and shall thereafter represent the right to receive a number of shares (the "Exchange Ratio") of common stock, $.0001 par value per share (the "PharmAthene Stock"), of PharmAthene equal to the quotient obtained from dividing the Fully Diluted Equity of PharmAthene immediately prior to the Effective Time by the Fully Diluted Equity of Theraclone immediately prior to the Effective Time (the "Merger Consideration"). The terms and conditions of the proposed Merger are set out more fully in the Agreement. Unless otherwise defined herein, all capitalized terms used herein shall have the meanings ascribed to such terms in the Agreement.

You have requested our opinion (our "Opinion") as to the fairness, from a financial point of view, to the holders of PharmAthene Stock (other than Theraclone and its affiliates) of the Exchange Ratio. This letter and our Opinion have been authorized by our Fairness Opinion Review Committee.

We have been engaged by the Company to act as financial advisor to the Company in connection with the proposed Merger and we will receive a fee from the Company for providing such services, the principal portion of which is contingent upon consummation of the Merger. In addition, the Company has agreed to reimburse our expenses arising, and indemnify us against certain liabilities that may arise, out of our engagement. We are a full-service securities firm engaged in securities trading and brokerage activities as well as investment banking and financial advisory services. In the ordinary course of business, we and our affiliates may, in the future, provide commercial and investment banking services to the Company, the Target or their respective affiliates and would expect to receive customary fees for the rendering of such services. In the ordinary course of our trading and brokerage activities, we or our affiliates have in the past and may in the future hold positions, for our own account or the accounts of our customers, in equity, debt or other securities of the Company, the Target or their respective affiliates.

Consistent with applicable legal and regulatory requirements, Leerink Swann has adopted policies and procedures to establish and maintain the independence of Leerink Swann's research departments and personnel. As a result, Leerink Swann's research analysts may hold views, make statements or investment recommendations and/or publish research reports with respect to the Company and the proposed Merger and other participants in the Merger that differ from the views of Leerink Swann's investment banking personnel.

In connection with our Opinion, we have reviewed and considered such financial and other information as we have deemed relevant, including, among other things:

(i) a draft of the Agreement, dated July 30, 2013;

(ii) certain financial and other business information of the Company and the Target furnished to us by the managements of the Company and the Target, respectively;

(iii) published estimates of independent research analysts with respect to the future financial performance and price targets of the Company;

(iv) certain periodic reports and other publicly available information regarding the Company;

(v) comparisons of certain publicly available financial data of companies whose securities are traded in the public markets and that we deemed relevant to similar data for the Company and Theraclone;

(vi) certain estimates as to the amount and timing of cost savings and related expenses anticipated by the management of the Company to result from the Merger (the "Synergies"); and

(vii) such other information, financial studies, analyses and investigations and such other factors that we deemed relevant for the purposes of this letter and our Opinion.

In addition, we held discussions with members of senior management and representatives of the Company and Theraclone concerning the matters described in clauses (ii) and (vi) above, as well as the businesses and prospects of the Company and Theraclone.

In conducting our review and analysis and in arriving at our Opinion, we have, with your consent, assumed and relied, without independent investigation, upon the accuracy and completeness of all financial and other information provided to us, or publicly available. We have not undertaken any responsibility for independently verifying, and did not independently verify, the accuracy, completeness or reasonableness of any such information. With respect to financial forecasts for the Company and Theraclone and the estimated Synergies that were provided to us and that we have reviewed, we have been advised, and we have assumed, with your consent, that such forecasts and estimated Synergies have been reasonably prepared in good faith on the basis of reasonable assumptions and reflect the best currently available estimates and judgments of the managements of the Company and Theraclone, respectively, as to the future financial condition and performance of the Company and Theraclone and the synergies estimated to be derived from the Merger. We express no opinion with respect to such forecasts or estimates or the assumptions upon which they are based. We have assumed, with your consent, that the future revenues of the Company which may result from the subject matter of its pending litigation with SIGA Technologies, Inc. will be equal to the damages awarded by the Delaware Chancery Court in its judgment dated May 31, 2012 (which was subsequently remanded by the Delaware Supreme Court on May 24, 2013 for reconsideration). We express no opinion with respect to the amount of such future revenues or the assumptions upon which such revenues are based.

We have not made or obtained any independent evaluations, valuations or appraisals of the assets or liabilities (contingent or otherwise) of the Company or Theraclone, nor have we been furnished with such materials. We have made no independent investigation of any legal, accounting or tax matters relating to the Company or Theraclone, and have assumed the correctness of all legal, accounting and tax advice given to the Company and Theraclone.

For purposes of rendering our Opinion, we have assumed in all respects material to our analysis, that the consideration to be received in the Merger was determined through arm's-length negotiations between the appropriate parties, that the representations and warranties of each party contained in the Agreement are true and correct, that each party will perform all of the covenants and agreements required to be performed by it under the Agreement without material alteration or waiver thereof, that all governmental, regulatory or other consents and approvals necessary for the consummation of the Merger will be obtained without any adverse effect on the expected benefits of the Merger in any way meaningful to our analysis and that all conditions to the consummation of the proposed Merger will be satisfied without waiver thereof or material alteration to the terms of the proposed Merger. We have assumed, with your consent, that the Fully Diluted Equity of PharmAthene as of the date hereof is 59,221,000 shares of PharmAthene Stock and the Fully Diluted Equity of Theraclone as of the date hereof is 51,687,000 shares of Theraclone Common Stock, resulting in an Exchange Ratio of approximately 1.1458 shares of PharmAthene Stock for each share of Theraclone Common Stock, and that there will be no change (other than a de minimis change) in the Fully Diluted Equity of PharmAthene or Theraclone after the date hereof. We have also assumed, with your consent, that the final form of the Agreement will be substantially the same as the last draft reviewed by us. In addition, we have assumed, with your consent, that the historical financial statements of the Company and Theraclone reviewed by us have been prepared and fairly presented in accordance with U.S. generally accepted accounting principles consistently

applied. We have further assumed, with your consent, that as of the date hereof, there has been no material adverse change in the Company's or the Target's assets, financial condition, results of operations, business or prospects since the date of the last audited financial statements made available to us which change has not been disclosed to us prior to the date hereof.

We do not express any opinion as to (i) the value of any employee agreement or other arrangement entered into in connection with the proposed Merger, or (ii) any tax or other consequences that might result from the proposed Merger. Furthermore, we express no opinion with respect to the amount or nature of compensation to any officer, director or employee of any party to the Merger, or any class of such persons, relative to the Merger Consideration or with respect to the fairness of any such compensation.

Our Opinion relates solely to the fairness of the Exchange Ratio to the holders of PharmAthene Stock (other than Theraclone and its affiliates), and our Opinion does not address the Company's underlying business decision to proceed with or effect the Merger or any other term, aspect or implication of the proposed Merger or any other agreement or arrangement entered into in connection with the proposed Merger. We have not been requested to opine as to, and this letter and our Opinion do not in any manner address, the fairness of the Merger or the Exchange Ratio to the holders of any other class of securities or creditors or any other constituency of the Company. We are not expressing any opinion as to the impact of the Merger on the solvency or viability of the Company or Theraclone or the ability of the Company or Theraclone to pay its obligations when they come due. In addition, this letter and our Opinion do not address any legal or accounting matters, as to which we understand that the Company has obtained such advice as it has deemed necessary from qualified professionals. We are not expressing any opinion as to the prices at which shares of the PharmAthene Stock may trade at any time.

Our Opinion is necessarily based upon economic and market conditions and other circumstances as they exist and can be evaluated by us on the date hereof. It should be understood that although subsequent developments may affect our Opinion, we do not have any obligation to update, revise or reaffirm our Opinion and we expressly disclaim any responsibility to do so.

It is understood that this letter and our Opinion are intended for the benefit and use of the Board of Directors of the Company in its consideration of the proposed Merger. This letter and our Opinion do not constitute a recommendation of the Merger to the Board of Directors of the Company nor do they constitute a recommendation to any shareholder of the Company how such shareholder should vote with respect to the Merger or otherwise.

Based upon and subject to the foregoing, including the various assumptions and limitations set forth herein, it is our opinion that, as of the date hereof, the Exchange Ratio is fair, from a financial point of view, to the holders of PharmAthene Stock (other than Theraclone and its affiliates).

Very truly yours,

LEERINK SWANN LLC

/s/ Leerink Swann

**ANNEX G**

## SECTION 262 OF THE DELAWARE GENERAL CORPORATION LAW

§262. Appraisal rights.

(a) Any stockholder of a corporation of this State who holds shares of stock on the date of the making of a demand pursuant to subsection (d) of this section with respect to such shares, who continuously holds such shares through the effective date of the merger or consolidation, who has otherwise complied with subsection (d) of this section and who has neither voted in favor of the merger or consolidation nor consented thereto in writing pursuant to §228 of this title shall be entitled to an appraisal by the Court of Chancery of the fair value of the stockholder's shares of stock under the circumstances described in subsections (b) and (c) of this section. As used in this section, the word “stockholder” means a holder of record of stock in a corporation; the words “stock” and “share” mean and include what is ordinarily meant by those words; and the words “depository receipt” mean a receipt or other instrument issued by a depository representing an interest in 1 or more shares, or fractions thereof, solely of stock of a corporation, which stock is deposited with the depository.

(b) Appraisal rights shall be available for the shares of any class or series of stock of a constituent corporation in a merger or consolidation to be effected pursuant to §251 (other than a merger effected pursuant to §251(g) of this title and, subject to paragraph (b)(3) of this section, §251(h) of this title), §252, §254, §255, §256, §257, §258, §263 or §264 of this title:

(1) Provided, however, that, except as expressly provided in §363(b) of this title, no appraisal rights under this section shall be available for the shares of any class or series of stock, which stock, or depository receipts in respect thereof, at the record date fixed to determine the stockholders entitled to receive notice of the meeting of stockholders to act upon the agreement of merger or consolidation, were either: (i) listed on a national securities exchange or (ii) held of record by more than 2,000 holders; and further provided that no appraisal rights shall be available for any shares of stock of the constituent corporation surviving a merger if the merger did not require for its approval the vote of the stockholders of the surviving corporation as provided in §251(f) of this title.

(2) Notwithstanding paragraph (b)(1) of this section, appraisal rights under this section shall be available for the shares of any class or series of stock of a constituent corporation if the holders thereof are required by the terms of an agreement of merger or consolidation pursuant to §§251, 252, 254, 255, 256, 257, 258, 263 and 264 of this title to accept for such stock anything except:

a. Shares of stock of the corporation surviving or resulting from such merger or consolidation, or depository receipts in respect thereof;

b. Shares of stock of any other corporation, or depository receipts in respect thereof, which shares of stock (or depository receipts in respect thereof) or depository receipts at the effective date of the merger or consolidation will be either listed on a national securities exchange or held of record by more than 2,000 holders;

c. Cash in lieu of fractional shares or fractional depository receipts described in the foregoing paragraphs (b)(2)a. and b. of this section; or

d. Any combination of the shares of stock, depository receipts and cash in lieu of fractional shares or fractional depository receipts described in the foregoing paragraphs (b)(2)a., b. and c. of this section.

(3) In the event all of the stock of a subsidiary Delaware corporation party to a merger effected under §251(h), §253 or §267 of this title is not owned by the parent immediately prior to the merger, appraisal rights shall be available for the shares of the subsidiary Delaware corporation.

(4) In the event of an amendment to a corporation's certificate of incorporation contemplated by §363(a) of this title, appraisal rights shall be available as contemplated by §363(b) of this title, and the procedures of this section, including those set forth in subsections (d) and (e) of this section, shall apply

as nearly as practicable, with the word “amendment” substituted for the words “merger or consolidation”, and the word “corporation” substituted for the words “constituent corporation” and/or “surviving or resulting corporation”.

(c) Any corporation may provide in its certificate of incorporation that appraisal rights under this section shall be available for the shares of any class or series of its stock as a result of an amendment to its certificate of incorporation, any merger or consolidation in which the corporation is a constituent corporation or the sale of all or substantially all of the assets of the corporation. If the certificate of incorporation contains such a provision, the procedures of this section, including those set forth in subsections (d) and (e) of this section, shall apply as nearly as is practicable.

(d) Appraisal rights shall be perfected as follows:

(1) If a proposed merger or consolidation for which appraisal rights are provided under this section is to be submitted for approval at a meeting of stockholders, the corporation, not less than 20 days prior to the meeting, shall notify each of its stockholders who was such on the record date for notice of such meeting (or such members who received notice in accordance with §255(c) of this title) with respect to shares for which appraisal rights are available pursuant to subsection (b) or (c) of this section that appraisal rights are available for any or all of the shares of the constituent corporations, and shall include in such notice a copy of this section and, if 1 of the constituent corporations is a nonstock corporation, a copy of §114 of this title. Each stockholder electing to demand the appraisal of such stockholder's shares shall deliver to the corporation, before the taking of the vote on the merger or consolidation, a written demand for appraisal of such stockholder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such stockholder's shares. A proxy or vote against the merger or consolidation shall not constitute such a demand. A stockholder electing to take such action must do so by a separate written demand as herein provided. Within 10 days after the effective date of such merger or consolidation, the surviving or resulting corporation shall notify each stockholder of each constituent corporation who has complied with this subsection and has not voted in favor of or consented to the merger or consolidation of the date that the merger or consolidation has become effective; or

(2) If the merger or consolidation was approved pursuant to §228, §251(h), §253, or §267 of this title, then either a constituent corporation before the effective date of the merger or consolidation or the surviving or resulting corporation within 10 days thereafter shall notify each of the holders of any class or series of stock of such constituent corporation who are entitled to appraisal rights of the approval of the merger or consolidation and that appraisal rights are available for any or all shares of such class or series of stock of such constituent corporation, and shall include in such notice a copy of this section and, if 1 of the constituent corporations is a nonstock corporation, a copy of §114 of this title. Such notice may, and, if given on or after the effective date of the merger or consolidation, shall, also notify such stockholders of the effective date of the merger or consolidation. Any stockholder entitled to appraisal rights may, within 20 days after the date of mailing of such notice or, in the case of a merger approved pursuant to §251(h) of this title, within the later of the consummation of the tender or exchange offer contemplated by §251(h) of this title and 20 days after the date of mailing of such notice, demand in writing from the surviving or resulting corporation the appraisal of such holder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such holder's shares. If such notice did not notify stockholders of the effective date of the merger or consolidation, either (i) each such constituent corporation shall send a second notice before the effective date of the merger or consolidation notifying each of the holders of any class or series of stock of such constituent corporation that are entitled to appraisal rights of the effective date of the merger or consolidation or (ii) the surviving or resulting corporation shall send such a second notice to all such holders on or within 10 days after such effective date; provided, however, that if such second notice is sent more than 20 days following the sending of the first notice or, in the case of a merger approved pursuant to §251(h) of this title, later than the later of the consummation of the tender or exchange offer contemplated by §251(h) of this title and 20 days following the sending of the first notice, such second notice need only be sent to each stockholder who is entitled to appraisal rights and who has demanded appraisal of such holder's shares in accordance with this subsection. An affidavit of the

secretary or assistant secretary or of the transfer agent of the corporation that is required to give either notice that such notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein. For purposes of determining the stockholders entitled to receive either notice, each constituent corporation may fix, in advance, a record date that shall be not more than 10 days prior to the date the notice is given, provided, that if the notice is given on or after the effective date of the merger or consolidation, the record date shall be such effective date. If no record date is fixed and the notice is given prior to the effective date, the record date shall be the close of business on the day next preceding the day on which the notice is given.

(e) Within 120 days after the effective date of the merger or consolidation, the surviving or resulting corporation or any stockholder who has complied with subsections (a) and (d) of this section hereof and who is otherwise entitled to appraisal rights, may commence an appraisal proceeding by filing a petition in the Court of Chancery demanding a determination of the value of the stock of all such stockholders. Notwithstanding the foregoing, at any time within 60 days after the effective date of the merger or consolidation, any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party shall have the right to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation. Within 120 days after the effective date of the merger or consolidation, any stockholder who has complied with the requirements of subsections (a) and (d) of this section hereof, upon written request, shall be entitled to receive from the corporation surviving the merger or resulting from the consolidation a statement setting forth the aggregate number of shares not voted in favor of the merger or consolidation and with respect to which demands for appraisal have been received and the aggregate number of holders of such shares. Such written statement shall be mailed to the stockholder within 10 days after such stockholder's written request for such a statement is received by the surviving or resulting corporation or within 10 days after expiration of the period for delivery of demands for appraisal under subsection (d) of this section hereof, whichever is later. Notwithstanding subsection (a) of this section, a person who is the beneficial owner of shares of such stock held either in a voting trust or by a nominee on behalf of such person may, in such person's own name, file a petition or request from the corporation the statement described in this subsection.

(f) Upon the filing of any such petition by a stockholder, service of a copy thereof shall be made upon the surviving or resulting corporation, which shall within 20 days after such service file in the office of the Register in Chancery in which the petition was filed a duly verified list containing the names and addresses of all stockholders who have demanded payment for their shares and with whom agreements as to the value of their shares have not been reached by the surviving or resulting corporation. If the petition shall be filed by the surviving or resulting corporation, the petition shall be accompanied by such a duly verified list. The Register in Chancery, if so ordered by the Court, shall give notice of the time and place fixed for the hearing of such petition by registered or certified mail to the surviving or resulting corporation and to the stockholders shown on the list at the addresses therein stated. Such notice shall also be given by 1 or more publications at least 1 week before the day of the hearing, in a newspaper of general circulation published in the City of Wilmington, Delaware or such publication as the Court deems advisable. The forms of the notices by mail and by publication shall be approved by the Court, and the costs thereof shall be borne by the surviving or resulting corporation.

(g) At the hearing on such petition, the Court shall determine the stockholders who have complied with this section and who have become entitled to appraisal rights. The Court may require the stockholders who have demanded an appraisal for their shares and who hold stock represented by certificates to submit their certificates of stock to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with such direction, the Court may dismiss the proceedings as to such stockholder.

(h) After the Court determines the stockholders entitled to an appraisal, the appraisal proceeding shall be conducted in accordance with the rules of the Court of Chancery, including any rules specifically governing appraisal proceedings. Through such proceeding the Court shall determine the fair value of the shares exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation, together with interest, if any, to be paid upon the amount determined to be the fair value. In determining such fair value, the Court shall take into account all relevant factors. Unless the Court in its discretion determines otherwise for good cause shown, interest from the effective date of the merger through the date of payment of

the judgment shall be compounded quarterly and shall accrue at 5% over the Federal Reserve discount rate (including any surcharge) as established from time to time during the period between the effective date of the merger and the date of payment of the judgment. Upon application by the surviving or resulting corporation or by any stockholder entitled to participate in the appraisal proceeding, the Court may, in its discretion, proceed to trial upon the appraisal prior to the final determination of the stockholders entitled to an appraisal. Any stockholder whose name appears on the list filed by the surviving or resulting corporation pursuant to subsection (f) of this section and who has submitted such stockholder's certificates of stock to the Register in Chancery, if such is required, may participate fully in all proceedings until it is finally determined that such stockholder is not entitled to appraisal rights under this section.

(i) The Court shall direct the payment of the fair value of the shares, together with interest, if any, by the surviving or resulting corporation to the stockholders entitled thereto. Payment shall be so made to each such stockholder, in the case of holders of uncertificated stock forthwith, and the case of holders of shares represented by certificates upon the surrender to the corporation of the certificates representing such stock. The Court's decree may be enforced as other decrees in the Court of Chancery may be enforced, whether such surviving or resulting corporation be a corporation of this State or of any state.

(j) The costs of the proceeding may be determined by the Court and taxed upon the parties as the Court deems equitable in the circumstances. Upon application of a stockholder, the Court may order all or a portion of the expenses incurred by any stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorney's fees and the fees and expenses of experts, to be charged pro rata against the value of all the shares entitled to an appraisal.

(k) From and after the effective date of the merger or consolidation, no stockholder who has demanded appraisal rights as provided in subsection (d) of this section shall be entitled to vote such stock for any purpose or to receive payment of dividends or other distributions on the stock (except dividends or other distributions payable to stockholders of record at a date which is prior to the effective date of the merger or consolidation); provided, however, that if no petition for an appraisal shall be filed within the time provided in subsection (e) of this section, or if such stockholder shall deliver to the surviving or resulting corporation a written withdrawal of such stockholder's demand for an appraisal and an acceptance of the merger or consolidation, either within 60 days after the effective date of the merger or consolidation as provided in subsection (e) of this section or thereafter with the written approval of the corporation, then the right of such stockholder to an appraisal shall cease. Notwithstanding the foregoing, no appraisal proceeding in the Court of Chancery shall be dismissed as to any stockholder without the approval of the Court, and such approval may be conditioned upon such terms as the Court deems just; provided, however that this provision shall not affect the right of any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation within 60 days after the effective date of the merger or consolidation, as set forth in subsection (e) of this section.

(l) The shares of the surviving or resulting corporation to which the shares of such objecting stockholders would have been converted had they assented to the merger or consolidation shall have the status of authorized and unissued shares of the surviving or resulting corporation.

**ANNEX H**

**CERTIFICATE OF AMENDMENT TO**
**AMENDED AND RESTATED**
**CERTIFICATE OF INCORPORATION**
**OF**
**PHARMATHENE, INC.**

(Pursuant to Section 242 of the General Corporation Law of the State of Delaware)

IT IS HEREBY CERTIFIED THAT:

**1.** The name of the corporation is PharmAthene, Inc., and the corporation was originally incorporated under the General Corporation Law of the State of Delaware (the "*GCL*") on April 25, 2005 under the name Healthcare Acquisition Corp.

**2.** The corporation hereby further amends its Amended and Restated Certificate of Incorporation as follows:

The first paragraph of Article FOURTH is hereby amended to increase the total number of shares of capital stock and the total number of shares of Common Stock which the Corporation shall have the authority to issue.

Article FOURTH of the Amended and Restated Certificate of Incorporation, shall read in its entirety as follows:

"FOURTH: The total number of shares of all classes of capital stock which the Corporation shall have authority to issue is 176,000,000 of which 175,000,000 shares shall be Common Stock of the par value of $0.0001 per share and 1,000,000 shares shall be Preferred Stock of the par value of $0.0001 per share.

A. Preferred Stock. The Board of Directors is expressly granted authority to issue shares of the Preferred Stock, in one or more series, and to fix for each such series such voting powers, full or limited, and such designations, preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions thereof as shall be stated and expressed in the resolution or resolutions adopted by the Board of Directors providing for the issue of such series (a "Preferred Stock Designation") and as may be permitted by the GCL. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of all of the then outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, without a separate vote of the holders of the Preferred Stock, or any series thereof, unless a vote of any such holders is required pursuant to any Preferred Stock Designation.

B. Common Stock. Except as otherwise required by law or as otherwise provided in any Preferred Stock Designation, the holders of the Common Stock shall exclusively possess all voting power and each share of Common Stock shall have one vote."

**3.** The amendment herein was authorized in accordance with the provisions of Section 242 of the GCL in a special meeting of the holders of the outstanding stock entitled to vote thereon.

IN WITNESS WHEREOF, the corporation has caused this Certificate of Amendment to be executed by a duly authorized officer on this _____ day of _____, 2013.

PHARMATHENE, INC.

By:_____
Name:
Title:

## PART II

## INFORMATION NOT REQUIRED IN JOINT PROXY STATEMENT/PROSPECTUS

### Item 20. Indemnification of Directors and Officers

PharmAthene is a Delaware corporation subject to the applicable indemnification provisions of the Delaware General Corporation Law or DGCL. Under Section 145 of the Delaware General Corporation Law, each director and officer of PharmAthene may be indemnified by PharmAthene against all expenses and liabilities (including attorney's fees, judgments, fines and amounts paid in settlement) actually or reasonably incurred in connection with the defense or settlement of any threatened, pending or completed legal proceedings in which he or she is involved by reason of the fact that he or she is or was a director or officer of PharmAthene if such director or officer acted in good faith and in a manner that he or she reasonably believed to be in or not opposed to the best interests of PharmAthene and, with respect to any criminal action or proceeding, if he or she had no reasonable cause to believe that his or her conduct was unlawful. If the legal proceeding, however, is by or in the right of PharmAthene, the director or officer may not be indemnified in respect of any claim, issue or matter as to which he or she shall have been adjudged to be liable to PharmAthene unless a court determines otherwise.

PharmAthene's Certificate of Incorporation limits the liability of its directors to the fullest extent permitted by the Delaware General Corporation Law. Specifically, Article VIII of PharmAthene's Certificate of Incorporation provides that no director of PharmAthene will be personally liable to PharmAthene or its stockholders for monetary damages for any breach of fiduciary duty by such a director as a director, except for liability (i) for any breach of the director's duty of loyalty to PharmAthene or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which such director derived an improper personal benefit. If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of PharmAthene will be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law as so amended. No amendment to or repeal of Article VIII, Paragraph A will adversely affect any right or protection of a director of PharmAthene with respect to events occurring prior to the time of such repeal or modification.

PharmAthene's Certificate of Incorporation provides for indemnification of PharmAthene's directors and officers. Specifically, Article VIII provides that PharmAthene will indemnify, to the fullest extent authorized or permitted by Section 145 of the Delaware General Corporation Law, as the same exists or may thereafter be amended, all persons whom it may indemnify pursuant thereto.

The Merger Agreement provides that the combined company will continue to indemnify and hold harmless each present and former director or officer of PharmAthene, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the merger, including advancing expenses, to the fullest extent permitted under applicable law and PharmAthene's Certificate of Incorporation or Bylaws. The Merger Agreement also provides that the combined company will honor all indemnification agreements in place with each present and former director or officer of PharmAthene. The Merger Agreement provides that the combined company will continue to indemnify and hold harmless each present and former director, officer, or employee of Theraclone, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the merger, including advancing expenses, to the fullest extent allowed by applicable law. In addition, all rights to indemnification with respect to acts or omissions occurring at or prior to completion of the merger existing in favor of each present and former director, officer, or employee of Theraclone as provided in Theraclone's Certificate of Incorporation, Theraclone's Bylaws, or indemnification agreements will remain in effect. The Merger Agreement also provides that, prior to completion of the merger, PharmAthene will purchase and maintain for a period of six years following completion of the merger, a directors' and officers' liability "tail" insurance policy covering the present and former directors and officers of PharmAthene and Theraclone for events occurring prior to completion of the merger. Such policy must contain terms no less favorable than the policies maintained by PharmAthene and Theraclone prior to completion of the merger.

PharmAthene has entered into agreements with its directors and officers regarding indemnification, in addition to indemnification provided for in PharmAthene's Certificate of Incorporation, Bylaws and the Delaware General Corporation Law and intends to enter into indemnification agreements with any new directors and officers in the future. Under these agreements, PharmAthene is required to indemnify its current and former directors and officers against expenses, judgments, penalties, fines, settlements and other amounts actually and reasonably incurred, including expenses of a derivative action, in connection with an actual or threatened proceeding if any of them may be made a party because he or she is or was one of PharmAthene's directors or officers. PharmAthene will be obligated to pay these amounts only if the director or officer acted in good faith and in a manner that he or she reasonably believed to be in or not opposed to PharmAthene's best interests. With respect to any criminal proceeding, PharmAthene will be obligated to pay these amounts only if the director or officer had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreements also set forth procedures that will apply in the event of a claim for indemnification.

PharmAthene maintains an insurance policy for its directors and officers pursuant to which its directors and officers are insured against liability for certain actions in their capacity as directors and officers of PharmAthene.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to PharmAthene's directors, officers or persons controlling PharmAthene pursuant to the foregoing provisions, PharmAthene is aware that in the opinion of the Securities and Exchange Commission that this indemnification is against public policy as expressed in the Securities Act of 1933 and is therefore unenforceable.

**Item 21. Exhibits and Financial Statement Schedules**

***(a) Exhibits Index.***

See exhibit index immediately following the signature page to this Registration Statement on Form S-4, which is incorporated herein by reference.

***(b) Financial Statement Schedules.***

Not applicable.

***(c) Report, Opinion or Appraisals***

Not applicable.

**Item 22. Undertakings**

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the “Calculation of Registration Fee” table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference into the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) The undersigned registrant undertakes as follows:

(1) that prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.

(2) that every prospectus (i) that is filed pursuant to paragraph (1) immediately preceding, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act of 1933 and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

(e) The undersigned registrant hereby undertakes to respond to requests for information that is incorporated by reference into the prospectus pursuant to Items 4, 10(b), 11 or 13 of this form, within one business day of receipt of such request, and to send the incorporated documents by first-class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

(f) The undersigned registrant hereby undertakes to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

## SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Annapolis, State of Maryland on October 25, 2013.

**PHARMATHENE, INC.**

By /s/ Eric I. Richman
Eric I. Richman
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities indicated, on the dates indicated.

| Name and Signature | Title | Date |
|---|---|---|
| /s/ Eric I. Richman<br>Eric I. Richman | Chief Executive Officer<br>(principal executive officer) | October 25, 2013 |
| /s/ Linda L. Chang<br>Linda L. Chang | Chief Financial Officer<br>(principal financial and accounting officer) | October 25, 2013 |
| *<br>Mitchel B. Sayare, Ph.D. | Chairman of the Board | October 25, 2013 |
| *<br>John M. Gill | Director | October 25, 2013 |
| *<br>Brian A. Markison | Director | October 25, 2013 |
| *<br>Joel W. McCleary | Director | October 25, 2013 |
| *<br>Jeffrey W. Runge, M.D. | Director | October 25, 2013 |
| *<br>Derace L. Schaffer, M.D. | Director | October 25, 2013 |
| *<br>Steven St. Peter, M.D. | Director | October 25, 2013 |

*By: /s/ Eric I. Richman
Attorney-in-fact

**PHARMATHENE, INC.**

**EXHIBIT INDEX TO REGISTRATION STATEMENT ON FORM S-4**
**EXHIBIT INDEX**

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 2.1 | Agreement and Plan of Merger, dated January 19, 2007, by and among Healthcare Acquisition Corp., PAI Acquisition Corp., and PharmAthene, Inc. | 8-K | 2.1 | 01/22/2007 | |
| 2.2 | Sale and Purchase Agreement, dated March 20, 2008, by and among PharmAthene, Inc. and Avecia Investments Limited, Avecia Biologics Limited and Avecia Biologics, Inc. | 8-K | 2.1 | 03/26/2008 | |
| 2.3 | Amendment Agreement, dated April 2, 2008, by and among, PharmAthene, Inc., PharmAthene UK Limited and PharmAthene US Corporation and Avecia Investments Limited, Avecia Biologics Limited and Avecia Biologics, Inc. | 8-K | 2.1 | 04/08/08 | |
| 2.4 | Agreement and Plan of Merger dated as of July 31, 2013 by and among PharmAthene, Inc., Taurus Merger Sub, Inc., Theraclone Science, Inc. and Steven Gillis, Ph.D., as Securityholders' Representative. | 8-K | 2.1 | 08/01/2013 | |
| 3.1 | Amended and Restated Certificate of Incorporation of PharmAthene, Inc., as amended. | 8-K | 3.1 | 11/04/2009 | |
| 3.2 | PharmAthene, Inc. By-laws, as amended. | 8-K | 3.1 | 05/02/2008 | |
| 4.1 | PharmAthene, Inc. Specimen Unit Certificate. | S-1 | 4.1 | 05/06/2005 | |
| 4.2 | PharmAthene, Inc. Specimen Common Stock Certificate. | 8-K/A | 4.2 | 09/24/2007 | |
| 4.3 | Amendment to Unit Purchase Option by and between PharmAthene, Inc. and Maxim Partners, LLC dated January 28, 2007. | 8-K | 4.1 | 01/25/2007 | |
| 4.4 | Form of PharmAthene, Inc. Warrant in connection with Securities Purchase Agreement dated as of March 23, 2009. | 8-K | 10.2 | 03/27/2009 | |
| 4.5 | Form of PharmAthene, Inc. Warrant in connection with Note and Warrant Purchase Agreement, as amended as of July 28, 2009. | 8-K/A | 4.10 | 08/03/2009 | |

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 4.6 | Form of PharmAthene, Inc. Warrant in connection with Securities Purchase Agreement dated as of April 7, 2010. | 8-K | 10.2 | 04/08/2010 | |
| 4.7 | Form of PharmAthene, Inc. Warrant in connection with Securities Purchase Agreement dated as of July 20, 2010. | 8-K | 10.2 | 07/20/2010 | |
| 4.8 | Form of PharmAthene, Inc. Warrant in connection with Subscription Agreement dated as of June 10, 2011. | 8-K | 10.2 | 06/10/2011 | |
| 4.9 | Form of PharmAthene, Inc. Warrant in connection with Loan and Security Agreement, dated March 30, 2012. | 8-K | 10.2 | 04/03/2012 | |
| 5.1 | Opinion of Dentons US LLP | | | | X |
| 8.1 | Opinion of Dentons US LLP regarding tax matters | | | | X |
| 8.2 | Opinion of Fenwick & West LLP regarding tax matters | | | | X |
| 10.1 | Controlled Equity OfferingSM Sales Agreement between PharmAthene, Inc. and Cantor Fitzgerald & Co. dated March 25, 2013. | 8-K | 10.1 | 03/25/2013 | |
| 10.2 | Form of Theraclone Sciences, Inc. Voting and Lock-Up Agreement dated as of July 31, 2013. | 8-K | 10.2 | 08/01/2013 | |
| 10.3 | Form of Board Composition Agreement. | 8-K | 10.3 | 08/01/2013 | |
| 10.4 | Form of Registration Rights Agreement among PharmAthene, Inc. and the Initial Stockholders. | S-1 | 10.4 | 05/06/2005 | |
| 10.5 | Form of Post-Closing Lockup Agreement. | 8-K | 10.4 | 08/01/2013 | |
| 10.6 | Form of PharmAthene Voting and Lock-Up Agreement dated as of July 31, 2013. | 8-K | 10.1 | 08/01/2013 | |
| 10.9 | Form of Registration Rights Agreement by and among Healthcare Acquisition Corp. and the former stockholders and note holders of PharmAthene, Inc. | 8-K | 10.1 | 01/22/2007 | |
| 10.12 | PharmAthene, Inc. Amended and Restated 2007 Long-Term Incentive Compensation Plan. | 14A | Appendix B | 05/15/2008 | |

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 10.23 | Collaboration Agreement, dated November 29, 2004, by and between PharmAthene, Inc. and Medarex, Inc. | 8-K/A | 10.23 | 09/24/2007 | |
| 10.28 | Office Lease, dated September 14, 2006, by and between PharmAthene, Inc. and Park Place Trust, as amended by First Amendment to Office Lease, dated January 22, 2007. | 8-K/A | 10.28 | 09/24/2007 | |
| 10.28.2 | Second Amendment to Office Lease, by and between PharmAthene, Inc. and Park Place Trust, dated September 16, 2008. | 10-K | 10.26.2 | 03/31/2011 | |
| 10.30 | Form of PharmAthene Inc. Executive Employment Agreement. | 10-Q | 10.30 | 08/14/2008 | |
| 10.30.1 | Employment Agreement, dated April 18, 2008, by and between Eric Richman and PharmAthene, Inc. | 10-K | 10.30.1 | 03/26/2010 | |
| 10.30.3 | Amendment, dated as of May 18, 2010, to Employment Agreement, dated as of April 18, 2008, by and between Eric I. Richman and PharmAthene, Inc. | 8-K | 10.30.3 | 05/24/2010 | |
| 10.30.4 | Amendment to Employment Agreement, dated as of December 23, 2010, between PharmAthene, Inc. and Eric I. Richman. | 8-K | 10.1 | 12/30/2010 | |
| 10.30.5 | Employment Agreement, dated April 5, 2010, by and between Thomas Fuerst and PharmAthene, Inc. | 10-K | 10.30.5 | 03/31/2010 | |
| 10.30.6 | Form of PharmAthene, Inc. Executive Restricted Stock Award Agreement. | 10-Q | 10.30.6 | 05/11/2011 | |
| 10.30.7 | Form of PharmAthene, Inc. Executive Stock Option Agreement. | 10-Q | 10.30.7 | 05/11/2011 | |
| 10.30.8 | Form of PharmAthene, Inc. Director Stock Option Agreement. | 10-Q | 10.30.8 | 05/11/2011 | |
| 10.30.9 | Employment Agreement, dated June 30, 2008, by and between Jordan P. Karp and PharmAthene, Inc. | 10-K | 10.30.9 | 03/14/2013 | |
| 10.30.10 | Employment Agreement, dated February 7, 2012, by and between Linda Chang and PharmAthene, Inc. | 10-K | 10.30.10 | 03/14/2013 | |
| 10.31 | Form of PharmAthene Inc. Confidentiality and Non-Solicitation Agreement. | 10-Q | 10.31 | 08/14/2008 | |

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 10.33 | Master Service Agreement, dated December 15, 2004, between Avecia Limited and the Secretary of State for Defence, acting through the Defence Science and Technology Laboratory (DSTL). | 10-Q/A | 10.33 | 08/19/2008 | |
| 10.34 | Master Service Agreement, dated August 18, 2005, between Avecia Limited and DSTL. | 10-Q/A | 10.34 | 08/19/2008 | |
| 10.35 | Manufacturing Licence Agreement, dated June 20, 2006, between Avecia Limited and DSTL. | 10-Q/A | 10.35 | 08/19/2008 | |
| 10.36.1 | Amended and Restated Manufacturing and Marketing License Agreement between the Secretary of State for Defence as represented by the Defence Science and Technology Laboratory (DSTL) and PharmAthene UK Ltd. in respect of Recombinant [***] Vaccine, dated February 11, 2009. | 10-Q | 10.36.1 | 05/15/2009 | |
| 10.37 | Letter Agreement, dated March 20, 2008, between Avecia Biologics Limited and DSTL. | 10-Q/A | 10.37 | 08/19/2008 | |
| 10.37.1 | Amended and Restated Licence Agreement between the Secretary of State for Defence as represented by the Defence Science and Technology Laboratory (DSTL) and PharmAthene UK Ltd. in respect of Recombinant [***] Vaccine, dated February 5, 2009. | 10-Q | 10.37.1 | 05/15/2009 | |
| 10.44 | Contract with the National Institutes of Health for the Production and Testing of Anthrax Recombinant Protective Antigen (rPA) Vaccine (#N01-AI-30052), or NIH Prime Contract-Anthrax, dated September 29, 2003. | 10-K | 10.44 | 03/31/2009 | |
| 10.45 | Amendments 1 through 13 to the NIH Prime Contract-Anthrax. | 10-K | 10.45 | 03/31/2009 | |
| 10.45.1 | Modification (Amendment) 16 to the Contract with the National Institutes of Health for the Production and Testing of Anthrax Recombinant Protective Antigen (rPA) Vaccine (#N01-AI-30052). | 10-Q | 10.45.1 | 11/13/2009 | |

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 10.45.2 | Modification (Amendment) 18 to the Contract with the National Institutes of Health for the Production and Testing of Anthrax Recombinant Protective Antigen (rPA) Vaccine (HHSO100200900203C). | 10-Q | 10.45.2 | 03/31/2011 | |
| 10.48 | Form of PharmAthene, Inc. Indemnification Agreement. | 8-K | 10.45 | 01/27/2009 | |
| 10.49 | Form of Securities Purchase Agreement dated as of March 23, 2009 between PharmAthene, Inc. and the Purchasers party thereto. | 8-K | 10.1 | 03/27/2009 | |
| 10.51 | Form of Note and Warrant Purchase Agreement, dated as of July 24, 2009, by and among PharmAthene, Inc. and the investors signatories thereto, as amended by Amendment No. 1 to Note and Warrant Purchase Agreement, dated as of July 26, 2009 and Amendment No. 2 to Note and Warrant Purchase Agreement, dated as of July 28, 2009. | 8-K/A | 10.50 | 08/03/2009 | |
| 10.52 | Form of Registration Rights Agreement, dated as of July 28, 2009 by and among PharmAthene, Inc. and the investors signatories thereto. | 8-K/A | 10.51 | 08/03/2009 | |
| 10.53 | Technology Transfer and Development Services Subcontract, dated as of September 17, 2009, by and between Diosynth Biotechnologies Inc. and PharmAthene, Inc. | 10-Q | 10.52 | 11/13/2009 | |
| 10.55 | Form of Securities Purchase Agreement, dated as of April 7, 2010, between PharmAthene, Inc. and the Purchasers party thereto. | 8-K | 10.1 | 04/08/2010 | |
| 10.56 | Form of Securities Purchase Agreement, dated as of July 20, 2010, between PharmAthene, Inc. and the Purchasers party thereto. | 8-K | 10.1 | 07/20/2010 | |
| 10.57 | Form of Subscription Agreement, dated as of June 10, 2011, between PharmAthene, Inc. and the Investors party thereto. | 8-K | 10.1 | 06/10/2011 | |
| 10.58 | Loan and Security Agreement, dated March 30, 2012, between General Electric Capital Corporation. | 8-K | 10.1 | 04/03/2012 | |

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 10.59 | Agreement, dated December 5, 2011, between PharmAthene Canada, Inc. and Ferme Pillar Hill Enr., regarding the sale of real estate. | 10-K | 10.59 | 03/14/2013 | |
| 10.62 | Employment Agreement, dated as of April 18, 2008, between PharmAthene, Inc. and Francesca Cook. | 10-Q | 10.62 | 05/08/2013 | |
| 10.63 | Form of Employment Agreement between PharmAthene, Inc. and Clifford J. Stocks. | | | | X |
| 10.64 | Lease Agreement, dated as of May 24, 2007, between Theraclone Sciences, Inc. and Alexandria Real Estate Equities, Inc, as amended. | | | | X |
| 10.65† | Development and License Agreement, dated March 11, 2010, between Theraclone Sciences, Inc. and Zenyaku Kogyo Co. Ltd. | | | | X |
| 10.66† | Research Collaboration and License Agreement, dated December 17, 2010, between Theraclone Sciences, Inc., Pfizer Inc. and Covx Technologies Ireland Limited. | | | | X |
| 10.67† | Research Collaboration Agreement, dated July 1, 2009, between Theraclone Sciences, Inc. and International Aids Vaccine Initiative. | | | | X |
| 10.68† | Amendment No. 1 to Research Collaboration Agreement, dated November 30, 2010, between Theraclone Sciences, Inc. and International Aids Vaccine Initiative. | | | | X |
| 10.69† | Amendment No. 2 to Research Collaboration Agreement, dated December 3, 2012, between Theraclone Sciences, Inc. and International Aids Vaccine Initiative. | | | | X |
| 10.70 | Form of PharmAthene, Inc. Executive Employment Agreement (2013) | | | | X |

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|
| | | Form | Exhibit No. | Filing Date | |
| 23.1 | Consent of Independent Auditors | | | | X |
| 23.2 | Consent of Independent Registered Accounting Firm | | | | X |
| 23.3 | Consent of Dentons US LLP (included in Exhibit 5.1 hereto) | | | | X |
| 23.4 | Consent of Dentons US LLP regarding tax matters (included in Exhibit 8.1 hereto) | | | | X |
| 23.5 | Consent of Fenwick & West LLP regarding tax matters (included in Exhibit 8.2 hereto) | | | | X |
| 24.1 | Power of Attorney | S-4 | 24.1 | 09/06/2013 | |
| 99.1 | Form of Proxy Card for PharmAthene, Inc. Special Meeting of Stockholders | | | | X |
| 99.2 | Opinion of Leerink Swann LLC, financial advisor to PharmAthene, Inc. (included as Annex B to the proxy statement/prospectus/consent solicitation) | S-4 | 99.2 | 09/06/2013 | |
| 99.3 | Consent of Steven Gillis, Ph.D. to serve as director | S-4 | 99.3 | 09/06/2013 | |
| 99.4 | Consent of Wende S. Hutton to serve as director | S-4 | 99.4 | 09/06/2013 | |
| 99.5 | Consent of Clifford J. Stocks to serve as director | S-4 | 99.5 | 09/06/2013 | |
| 99.6 | Consent of Steven P. James to serve as director | | | | X |
| 101.INS | XBRL Instance Document | | | | X |
| 101.SCH | XBRL Taxonomy Extension Scheme Document | | | | X |
| 101.CAL | XBRL Taxonomy Extension Calculation Document | | | | X |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase | | | | X |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase | | | | X |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase | | | | X |

* To be filed by amendment

† Confidential treatment has been requested for the redacted portions of this agreement pursuant to Rule 406 of the Securities Act of 1933, as amended.

(1) All exhibits and schedules to this exhibit have been omitted pursuant to Item 601(b)(2) of Regulation S-K. PharmAthene will furnish the omitted exhibits and schedules to the Securities and Exchange Commission upon request by the Securities and Exchange Commission.

(2) Confidential treatment under Rule 24b-2 of the Securities Exchange Act of 1934, as amended, has been granted with respect to designated portions of this document.

(3) Pursuant to Rule 406T of Regulation S-T, the XBRL related information in Exhibit 101 to this Registration Statement on Form S-4 shall be deemed to be not filed for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be deemed part of a registration statement, prospectus or other document filed under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filings.

**Exhibit 5.1**

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020-1089 USA

T +1 212 768 6700
F +1 212 768 6800

October 23, 2013

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, MD 21401

Re: Registration Statement on Form S-4

Ladies and Gentlemen:

We have acted as counsel to PharmAthene, Inc., a Delaware corporation ("PharmAthene"), in connection with the proposed issuance of up to 60,316,126 shares of PharmAthene's common stock, $0.0001 par value per share (the "Shares"), in connection with the merger of Taurus Merger Sub, Inc., a wholly owned subsidiary of PharmAthene ("Merger Sub") , pursuant to which Merger Sub will merge with and into Theraclone Sciences, Inc., a Delaware corporation ("Theraclone") and Theraclone will survive the merger as a wholly owned subsidiary of PharmAthene pursuant to that certain Agreement and Plan of Merger, dated as of July 31, 2013 by and among PharmAthene, Merger Sub, Theraclone and Steven Gillis, Ph.D., as Securityholder's Representative (the "Merger Agreement"). The Shares are included in a registration statement on Form S-4 (as amended through the effective date thereof, the "Registration Statement") filed by PharmAthene with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act") on the date hereof. This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related proxy statement/prospectus/consent solicitation, other than as expressly stated herein with respect to the issuance of the Shares.

In acting as counsel for PharmAthene and arriving at the opinions expressed below, we have examined and relied upon originals or copies, certified or otherwise identified to our satisfaction, of such records of PharmAthene, agreements and other instruments, certificates of officers and representatives of PharmAthene, certificates of public officials and other documents as we have deemed necessary or appropriate as a basis for the opinions expressed herein. In connection with our examination, we have assumed the genuineness of all signatures, the authenticity of all documents tendered to us as originals, the legal capacity of all natural persons and the conformity to original documents of all documents submitted to us as certified or photostatic copies.

Based upon the foregoing, and subject to the assumptions, qualifications and limitations set forth herein, we are of the opinion that the Shares have been duly authorized and that, when issued and delivered in accordance with the terms and conditions of the Merger Agreement, the Shares will be validly issued, fully paid and non-assessable.

We express no opinion with respect to laws other than those of the federal law of the United States of America and the Delaware General Corporation Law (including the statutory provisions, all applicable provisions of the Delaware Constitution and reported judicial decisions interpreting the foregoing), and we assume no responsibility as to the applicability thereto, or the effect thereon, of the laws of any other jurisdiction.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the proxy statement/prospectus/consent solicitation constituting part of the Registration Statement, including any amendments and supplements to the foregoing. In giving such consent, we do not hereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act, or the rules and regulations of the Commission thereunder.

Sincerely,

/s/ Dentons US LLP

**Exhibit 8.1**

October 25, 2013

PharmAthene, Inc.
One Park Place, Suite #450
Annapolis, MD 21401

Re: Registration Statement on Form S-4

Ladies and Gentlemen:

We have acted as counsel to PharmAthene, Inc., a Delaware corporation ("Parent"), in connection with the merger of Taurus Merger Sub, Inc., a Delaware corporation ("Merger Sub") and a direct, wholly owned subsidiary of Parent, with and into Theraclone Sciences, Inc. (the "Company") with the Company continuing as the surviving company and becoming a direct, wholly owned subsidiary of Parent (the "Merger") pursuant to the terms of that certain Agreement and Plan of Merger, dated as of July 31, 2013, among Parent, Merger Sub, the Company, and Steven Gillis, Ph.D., solely in his capacity as the representative of the Company stockholders (as may be amended from time to time, the "Merger Agreement"). This opinion is being delivered in connection with the registration statement on Form S-4 (as amended through the effective date thereof, the "Registration Statement"), which includes a proxy statement/prospectus/consent solicitation, filed by Parent with the U.S. Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Act"), on the date hereof, and in accordance with the requirements of Item 601(b)(8) of Regulation S-K under the Act. Unless otherwise indicated, each capitalized term used and not defined herein has the meaning ascribed to it in the Merger Agreement.

In rendering our opinion set forth below, we have examined and relied upon, without independent investigation or verification, the accuracy and completeness both initially and continuing as of the Effective Time, of the statements, facts, information, representations, covenants and agreements contained in originals or copies, certified or otherwise identified to our satisfaction, of the Merger Agreement, the Registration Statement and such other documents as we have deemed necessary or appropriate as a basis for the opinion set forth below, including officers' certificates from officers of Parent, dated as of October 25, 2013, and the Company, dated as of October 25, 2013 (collectively, the "Representation Letters"). For purposes of rendering our opinion, we have assumed that such statements, facts, information, representations, covenants and agreements are, and will continue to be up to and including the Effective Time, accurate and complete without regard to any qualification as to knowledge. Our opinion assumes and is expressly conditioned on, among other things, the initial and continuing accuracy and completeness up to and including the Effective Time of the statements, facts, information, representations, covenants and agreements set forth in the documents referred to above and the statements, representations, covenants and agreements made by Parent and the Company, including those set forth in the Representation Letters.

In our examination, we have assumed (i) the genuineness of all signatures, (ii) the legal capacity of natural persons, (iii) the authenticity of all documents submitted to us as originals, (iv) the conformity to original documents and all documents submitted to us as certified or photostatic copies, (v) the authenticity of the originals of such documents, (vi) the necessary entity formation and continuing existence in the jurisdiction of formation, and the necessary licensing and qualification in all jurisdictions, of all parties to all documents, (vii) the enforceability (as limited by bankruptcy and other insolvency laws) and, with respect thereto and to any other matter herein to which relevant, any necessary entity power and authority, authorization, execution, authentication, payment and delivery of, under and with respect to all documents to which this opinion letter relates, (viii) that there is not any other agreement that modifies or supplements the agreements expressed in any document to which this opinion letter relates in a manner that affects the correctness of any opinion expressed below, and (ix) that there has been no mutual mistake of fact or misunderstanding, fraud, duress or undue influence in connection with any document. We also have assumed that any transactions related to the Merger or contemplated by the Merger Agreement will be consummated in accordance with the terms and conditions of the Merger Agreement and as described in the Registration Statement, that none of the terms or conditions therein will have been waived or modified in any respect prior to the Effective Time and that the Merger will constitute a statutory merger under applicable state law. Each assumption herein is made and relied upon with your permission and without independent investigation.

In rendering our opinion, we have considered applicable provisions of the Internal Revenue Code of 1986, as amended (the "Code"), Treasury Regulations promulgated thereunder (the "Regulations"), pertinent judicial authorities, rulings of the Internal Revenue Service (the "IRS") and such other authorities as we have considered relevant, in each case, in effect on the date hereof. It should be noted that such laws, Code, Regulations, judicial authorities, administrative interpretations and such other authorities are subject to change at any time and, in some circumstances, with retroactive effect. A change in any of the authorities upon which our opinion is based, or any variation or difference in any fact from those set forth or assumed herein or in the Registration Statement, the Merger Agreement or the Representation Letters, could affect our conclusions herein. Moreover, there can be no assurance that our opinion will be accepted by the IRS or, if challenged, by a court.

Based solely upon and subject to the foregoing, we are of the opinion that under current U.S. federal income tax law, (i) the Merger will qualify as a "reorganization" within the meaning of Section 368(a) of the Code and (ii) insofar as they purport to describe provisions of U.S. federal income tax law and as limited therein, the statements set forth under the heading "Certain Material U.S. Federal Income Tax Consequences of the Merger" in the Registration Statement accurately describe the material U.S. federal income tax consequences of the Merger.

Except as expressly set forth above, we express no other opinion, including to any party as to any tax consequences, whether U.S. federal, state, local or non-U.S., of the Merger or of any transaction related to or contemplated by the Merger. We hereby consent to the filing of this opinion as an exhibit to the Registration Statement, and to the references to our firm name therein. In giving this consent, we do not admit that we come within the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the SEC thereunder.

This opinion is expressed as of the date hereof, and we are under no obligation to supplement or revise our opinion to reflect any legal developments or factual matters arising subsequent to the date hereof or the impact of any information, document, certificate, record, statement, representation, covenant or assumption relied upon herein that becomes incorrect or untrue.

Very truly yours,

/s/ DENTONS US LLP

**Exhibit 8.2**

October 25, 2013

Board of Directors
Theraclone Sciences, Inc.
1124 Columbia St., Suite 300
Seattle, WA 98104

Re: Exhibit Tax Opinion to the S-4 Registration Statement
Ladies and Gentlemen:

You have requested our opinion regarding certain U.S. federal income tax consequences of the merger (the "***Merger***") of Taurus Merger Sub, Inc. ("***Merger Sub***"), a Delaware corporation and a direct, wholly owned subsidiary of PharmAthene, Inc. ("***Parent***"), a Delaware corporation, with and into Theraclone Sciences, Inc. ("***Company***"), a Delaware corporation, pursuant to the Agreement and Plan of Merger dated as of July 31, 2013 among Parent, Merger Sub, Company, and Steven Gillis, Ph.D., solely in his capacity as the representative of Company stockholders, including all exhibits and attachments thereto (the "***Agreement***"). The Merger is further described in the Registration Statement on Form S-4 filed with the Securities and Exchange Commission on September 9, 2013 and related exhibits thereto (the "***S-4 Registration Statement***"), as thereafter amended at any time to and including the date hereof. This opinion has been requested solely in connection with the filing of the S-4 Registration Statement. Any capitalized terms used but not defined herein have the meaning given to such terms in the Agreement.

We have acted as legal counsel to the Company in connection with the Merger. As such, and for the purpose of rendering this opinion, we have examined and are relying upon (without any independent investigation or review thereof) the truth and accuracy at all relevant times of the statements, covenants, representations, and warranties contained in such documents as the S-4 Registration Statement and the Agreement.

In connection with rendering this opinion we have assumed (without any independent investigation or review thereof):

1. Original documents (including signatures) are authentic, documents submitted to us as copies conform to the original documents, and there has been due execution and delivery of all documents where due execution and delivery are prerequisites to the effectiveness thereof;
2. All statements, descriptions, and representations contained in any of the documents referred to herein or otherwise made available to us are true and correct and no actions have been taken or will be taken which are inconsistent with such statements, descriptions, or representations, or which make any such statements, descriptions or representations untrue, incorrect, or incomplete;

3. Original documents (including signatures) are authentic, documents submitted to us as copies conform to the original documents, and there has been due execution and delivery of all documents where due execution and delivery are prerequisites to the effectiveness thereof;
4. Any representation or statement referred to in the documents above made "to the best of knowledge" or which are similarly qualified is correct without such qualification, and all statements and representations, whether or not qualified, are true and will remain true through the Effective Time of the Merger and thereafter where relevant;
5. At all relevant times prior to and including the effective date of the Merger, (i) no outstanding indebtedness of the Company, Parent, or Merger Sub has represented or will represent equity for tax purposes; (ii) no outstanding equity of the Company, Parent, or Merger Sub has represented or will represent indebtedness for tax purposes; and (iii) no outstanding security, instrument, agreement, or arrangement that provides for, contains, or represents a right to acquire Company capital stock (or to share in the appreciation thereof) constitutes or will constitute "stock" for purposes of § 368(c) of the Code;
6. The consummation of the Merger in the manner contemplated by, and in accordance with the term set forth in the Agreement without any waiver, breach, or amendment of any of the provisions thereof.

Based on the forgoing facts, statements, documents, materials, assumptions, and information, and subject to the qualifications and limitations set forth herein, it is our opinion that (i) the Merger will qualify as a "reorganization" for U.S. federal income tax purposes within the meaning of § 368(a) of the Code and (ii) the discussion contained in the section of the S-4 Registration Statement entitled "Certain Material U.S. Federal Income Tax Consequences of the Merger," to the extent it reflects statements of law or legal conclusions with respect to the material United States federal income tax consequences of the Merger generally applicable to Company stockholders who hold their shares of Company capital stock as capital assets at the Effective Time and who exchange their shares for shares of Parent common stock, including, as applicable, cash in lieu of fractional shares of Parent common stock in the Merger, is accurate in all material respects.

Our opinion concerning certain of the U.S. federal tax consequences of the Merger is limited to the specific U.S. federal income tax consequences presented above. No opinion is expressed as to any transaction other than the Merger. In addition, this opinion does not address any estate, gift, state, local, or foreign tax consequences that may result from the Merger.

Our opinion is based on the current provisions of the Code, the Treasury Regulations promulgated thereunder, published pronouncements of the Internal Revenue Service (the "***Service***") and existing court decisions, all as currently in effect and any of which may be changed at any time. Any such changes could be retroactive in effect including with respect to transactions entered into prior to the date of such changes and could significantly modify the opinion set forth herein.

You should be aware that an opinion of counsel represents only counsel's best legal judgment and has no binding effect or official status of any kind. No assurances can be given that a contrary position will not be successfully asserted by the Service. No ruling has been or will be requested from the Service concerning the U.S. federal income tax consequences of the Merger. Further, if the facts vary from those relied upon (including if any representation, covenant, warranty, or assumption upon which we have relied is inaccurate, incomplete, breached, or ineffective), our opinion contained herein could be inapplicable.

We consent to the filing of this opinion as an exhibit to the S-4 Registration Statement and the references to our firm therein. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations promulgated thereunder.

Very truly yours,

/s/ Fenwick & West LLP
**FENWICK & WEST LLP**

**Exhibit 10.63**

**EXECUTIVE EMPLOYMENT AGREEMENT**

This Executive Employment Agreement (this "**Agreement**") is entered into between PharmAthene, Inc., a Delaware corporation (the "**Company**"), and Clifford J. Stocks ("**Executive**"). This Agreement is effective as of the day of the closing (the "**Closing**") of the merger by and between the Company and Theraclone Sciences, Inc., a Delaware corporation, and certain other parties, (the "**Merger**") pursuant to that Agreement and Plan of Merger Dated July 31, 2013 (the "**Effective Date**"). In the event the Merger is not consummated, this Agreement shall be of no force and effect.

**1.** POSITION AND DUTIES

Executive will serve as the Company's President and Chief Executive Officer ("**CEO**") and will report to the Company's Board of Directors (the "**Board**"), and will be based in Seattle, Washington. Executive will have overall operating responsibility for the day-to-day management of the Company and will render such business and professional services in the performance of his duties, consistent with Executive's position, as shall reasonably be assigned to him by the Board.

**2.** MEMBERSHIP ON BOARD

Executive will be promptly elected to the Board upon the Closing, and as long as Executive serves as CEO, the Company will nominate Executive for election and/or reelection as a member of the Board whenever his term is scheduled to expire. Executive may be removed from the Board in accordance with applicable law and the Company's Bylaws. Upon any termination of employment of Executive with the Company, Executive agrees to resign from the Board upon the date of Executive's termination of employment.

**3.** EXCLUSIVE SERVICE

Executive will devote his full working time and attention to the business of the Company and will not directly or indirectly, engage or participate in any business that is competitive in any manner with the business of the Company; provided, however, that Executive may continue to serve on the advisory boards on which he presently serves, all of which have been disclosed to the Company, and may serve on additional boards (whether advisory or boards of directors) with the prior approval of the Board, such to not be unreasonably withheld. Executive will also be expected to comply with and be bound by the Company's operating policies, procedures and practices that are from time to time in effect during the term of his employment. Executive's service on the boards of directors of other companies will be subject to the same review and approval process that applies to other members of the Board. Executive will not render other services to any for-profit business other than the Company without the prior approval of the Board. It is understood that the Board may deny approval for any reason that it deems in the best interests of the Company, including the desire to have Executive not take on additional time commitments.

**4.** AT-WILL EMPLOYMENT

Executive and the Company understand and acknowledge that Executive's employment with the Company constitutes "at-will" employment, and the employment relationship may be terminated at any time, with or without cause and with or without notice. Executive agrees to resign from all positions that he holds with the Company, including, without limitation, his position as a member of the Board immediately following the termination of his employment, if the Board so requests. Upon the Board's request, Executive shall execute any and all documents reasonably required to give effect to any such terminations.

**5.** COMPENSATION AND BENEFITS

**5.1** Base Salary. While employed by the Company pursuant to this Agreement, the Company shall pay Executive an annual base salary for fiscal year 2014 of $440,000 (the "**Base Salary**"), payable in accordance with the Company's normal payroll practices. From the Effective Date through December 31, 2013 the Company will continue to pay Executive a base salary of $379,600.00. The Base Salary will be reviewed annually by the Compensation Committee of the Board. Any changes thereto shall be determined by the Company in its sole and absolute discretion. Except as specifically set forth in this Section 5.1, the term "Base Salary" as used in this Agreement means the base salary of Executive immediately preceding Executive's Termination Date.

**5.2** Incentive Compensation Target Bonus. Executive will be eligible to receive an annual objective-based incentive bonus ("**Target Bonus**") based on criteria established by the Board. For the 2014 fiscal year of Executive's employment and subsequent fiscal years, Executive's Target Bonus will be up to fifty percent (50%) of Executive's then-current Base Salary. The Target Bonus will be reviewed annually by the Compensation Committee of the Board. The bonus will be paid as soon as reasonably practicable after the fiscal-year end but no later than the Section 409A short-term deferral period under Treasury Regulation 1.409-1(b)(4). Except as otherwise provided for herein, Executive must be employed with the Company on the date the Target Bonus is paid. The corporate objectives bonus target for 2013 shall remain at thirty-five percent (35%).

**5.3** Employee Benefits. Executive shall be eligible to participate in all employee benefit plans and arrangements, including, but not limited to, medical, dental, vision and long-term disability insurance benefits and arrangements, as are made available by the Company to its other senior executives, subject to the terms and conditions thereof.

**5.4** Vacation. Executive will be entitled to four weeks paid vacation (in addition to Company holidays) pursuant to the terms of the Company's vacation policy as may exist from time to time.

**5.5** Expenses. The Company will, in accordance with applicable Company policies and guidelines, reimburse Executive for all reasonable and necessary expenses incurred by Executive in connection with his performance of services on behalf of the Company.

**6.** EQUITY GRANTS

**6.1** Equity Grants. The Company will recommend to the Board that Executive be granted options under the Company's 2007 Long Term Incentive Compensation Plan (the "**Plan**") to purchase 903,666 shares (which, for the avoidance of doubt, is intended to constitute 0.75% of the fully-diluted shares of the Company as measured as of immediately following the Closing of the Merger) of the Company's common stock (the "**Options**") with an exercise price equal to the closing price of the Company's common stock on the date of grant. It is expected that the Option grant will occur on the day of the Closing (the "Grant Date"). The Options will vest over four (4) years in equal installments on each of forty-eight (48) monthly anniversaries of the Grant Date and become exercisable on each monthly anniversary date of the Grant Date, such vesting to be subject to Executive's continued employment with the Company. Notwithstanding the foregoing, in the event of certain separations from service from the Company, the vesting of the Options will be accelerated as set forth in Section 7.

**6.2** Additional Equity. Executive will be eligible to receive additional equity grants pursuant to a compensation program or plan that the Board (or the Compensation Committee of the Board) may establish in the future.

**6.3** Options Generally. The options to be granted pursuant to Section 6.1 will have a term of ten (10) years from the date of grant, and will be granted as an ***"Incentive Stock Option"*** to the maximum extent permitted by law.

**7.** TERMINATION BENEFITS

**7.1** Prior Obligations. In the event that Executive's employment terminates for any reason, whether voluntary or involuntary, Executive shall be entitled to the benefits under this Section 7.1:

**7.1.1** Accrued Salary and Vacation. A lump sum payment of all salary and accrued but unused vacation earned through the Termination Date.

**7.1.2** Expense Reimbursement. Upon submission of proper expense reports by Executive, the Company shall reimburse Executive for all expenses incurred by Executive, consistent with past practices, in connection with the business of the Company prior to Executive's Termination Date.

**7.1.3** Employee Benefits. Benefits, if any, under any 401(k) plan, nonqualified deferred compensation plan, employee stock purchase plan and other Company benefit plans under which Executive may be entitled to benefits, subject to and payable pursuant to the terms of such plans.

**7.2** Termination in Absence of a Change of Control. Subject to Section 7.4 and provided that (i) Executive executes a binding Termination Release Agreement in a form specified by the Company within sixty (60) days from his Termination Date as set forth therein and (ii) Executive resigns his position as a member of the Board, in the event of Executive's Termination in the Absence of a Change of Control, in addition to the benefits provided under Section 7.1 of this Agreement, Executive shall be entitled to the following benefits:

**7.2.1** Executive shall receive an amount equal to twelve (12) months of Executive's Base Salary, payable in one lump sum (the "**Severance Amount**").

**7.2.2** The Company will reimburse Executive for monthly premiums paid for continuation coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985 ("**COBRA**") for a period of twelve (12) months after Executive's Termination Date, provided Executive timely elects COBRA continuation coverage. Such premium reimbursement shall cease on the date that Executive becomes covered under another group health plan. Notwithstanding the foregoing, if the Company determines in its sole discretion that it cannot provide the COBRA benefits described herein without violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act), the Company shall in lieu thereof provide Executive a lump sum payment in an amount equal to the monthly COBRA premium that Executive would be required to pay to continue group health coverage for a period of up to twelve (12) months, which payment shall be made regardless of whether Executive elects COBRA continuation coverage.

**7.2.3** Executive will receive accelerated vesting of any outstanding Equity Awards (including, for the avoidance of doubt, the Options, future Equity Awards and the stock options carried over from Theraclone Sciences, Inc. that were exchanged for PharmAthene options pursuant to the Merger) as to twenty-five percent (25%) of the total number of shares subject to outstanding Equity Awards. Notwithstanding the provisions of this Section 7.2.3, the Board may in its sole discretion provide for additional vesting of the Options or other past or future equity awards made to Executive upon termination under this Section 7.2.

**7.3** Additional Benefits on Termination Upon Change of Control. Subject to Section 7.4 and provided (i) Executive executes a binding Termination Release Agreement in a form specified by the Company within sixty (60) days from his Termination Date as set forth therein and (ii) Executive resigns his position as a member of the Board, in the event of Executive's Termination Upon a Change of Control, in addition to the benefits provided under Section 7.1 of this Agreement (and in place of the benefits provided under Section 7.2 (except as set forth below in 7.3.2) of this Agreement), Executive shall be entitled to the following benefits:

**7.3.1** Executive shall receive an amount equal to the Severance Amount (but in any event the Severance Amount shall not be less than twelve (12) months of Executive's Base Salary), payable in one lump sum.

**7.3.2** The payment set forth above in Section 7.2.2.

**7.3.3** Executive will receive accelerated vesting of 100% of the unvested portion of any and all of Executive's outstanding Equity Awards (including, for the avoidance of doubt, the Options, the Annual Options, the options carried over from Theraclone Sciences, Inc. that were exchanged for PharmAthene options pursuant to the Merger and any future Equity Awards made to Executive).

**7.3.4** Transition Services for Termination Upon Change of Control. As a condition to receipt of the benefits provided pursuant to this Section 7.3, Executive agrees to provide services to the Company (and any Successor) following the Termination Upon a Change of Control to provide reasonable transition services for a period of time not to exceed three (3) months, provided that such services shall not account for greater than twenty percent (20%) of the level of services Executive provided as CEO prior to the Termination Upon Change of Control.

**7.4** Timing of Payments.

**7.4.1** In the event that Executive's employment terminates for any reason, whether voluntarily or involuntarily, all payments made under Section 7.1 of this Agreement shall be made within the time prescribed by applicable law, provided however that in no case shall payments extend beyond ninety (90) days of the Termination Date.

**7.4.2** In the event of a Termination in Absence of a Change of Control, all payments (other than COBRA premium reimbursements) made under Section 7.2 of this Agreement shall be made within sixty (60) days of the Termination Date, provided that, for any payments where a release is required, such release has been executed and is effective.

**7.4.3** In the event of a Termination Upon a Change of Control, all payments (other than COBRA premium reimbursements) made under Section 7.3 of this Agreement shall be made within sixty (60) days of the Termination Date, provided, however, that if Executive's Termination Date is prior to the consummation of the Change of Control, all payments (other than COBRA premium reimbursements) made under Section 7.3 of this Agreement (less any payments previously made under Section 7.2 of this Agreement) shall be made within sixty (60) days of the consummation of the Change of Control, provided further that, for any payments where a release is required, such release has been executed and is effective.

**8.** FEDERAL EXCISE TAX UNDER SECTION 280G

If (1) any amounts payable to Executive under this Agreement or otherwise are characterized as excess parachute payments pursuant to Section 4999 of the Internal Revenue Code of 1986, as amended (the "**Code**"), and (2) Executive thereby would be subject to any United States federal excise tax due to that characterization, then Executive's termination benefits hereunder will be payable either in full or in a lesser amount, whichever would result, after taking into account the applicable federal, state and local income taxes and the excise tax imposed by Section 4999, in Executive's receipt on an after-tax basis of the greatest amount of termination and other benefits. The determination of any reduction required pursuant to this section (including the determination as to which specific payments shall be reduced) shall be made by a nationally recognized accounting firm doing business in the United States which otherwise does not perform services for the Company (which will be chosen by the mutual agreement of Executive and the Company, such services to be paid by the Company), and such determination shall be conclusive and binding upon the Company or any related corporation for all purposes. If required, the payments and benefits under this Agreement shall be reduced in the following order: (A) a pro rata reduction of (i) cash payments that are subject to Section 409A as deferred compensation and (ii) cash payments not subject to Section 409A; (B) a pro rata reduction of (i) employee benefits that are subject to Section 409A as deferred compensation and (ii) employee benefits not subject to Section 409A; and (C) a pro rata cancellation of (i) accelerated vesting of stock and other equity-based awards that are subject to Section 409A as deferred compensation and (ii) stock and other equity-based awards not subject to Section 409A. In the event that acceleration of vesting of stock and other equity-based award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock and other equity-based awards unless Executive elects in writing a different order for cancellation.

**9.** DEFINITIONS

**9.1** Capitalized Terms Defined. Capitalized terms used in this Agreement shall have the meanings set forth in this Section 9, unless defined elsewhere herein or the context clearly requires a different meaning.

**9.2** "Cause" means:

**(a)** a clear refusal by Executive to carry out any material lawful duties of Executive as CEO or any directions by the Board;

**(b)** Executive's persistent failure to carry out any lawful duties as CEO or any directions of the Board reasonably consistent with those duties; provided, however, that Executive has been given reasonable notice of the specific failure and an opportunity to correct such failure within thirty (30) business days from the date of the notice;

**(c)** Executive's conviction of or plea of nolo contendere to a felony or a crime involving moral turpitude, which the Board believes has had or will have a detrimental effect on the Company's reputation or business;

**(d)** Executive engaging in an act of gross negligence or willful misconduct in the performance of his employment obligations and duties;

**(e)** Executive's committing an act of fraud against the Company or willful misappropriation of property belonging to the Company;

**(f)** Executive engaging in any other willful misconduct that has caused or will cause material harm to the Company's reputation or business; or

**(g)** Executive's breach of the Proprietary Information, Invention and Assignment Agreement.

**9.3** "Change of Control" means:

**(a)** a sale, conveyance, exchange or transfer in which any person or entity, either directly or indirectly, becomes the beneficial owner, directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the total voting power of all of its then outstanding voting securities;

**(b)** the consummation of a merger or consolidation, or series of related transactions, which results in the voting securities of the Company outstanding immediately prior thereto failing to continue to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity), directly or indirectly, a majority of the voting power of all voting securities of the surviving entity outstanding immediately after such merger or consolidation; or

**(c)** the sale or disposition of all or substantially all of the Company's assets (or consummation of any transaction, or series of related transactions, having similar effect).

**9.4** "Company" means PharmAthene, Inc. and any Successor.

**9.5** "Equity Award" shall mean any option, restricted stock award, restricted stock unit award, stock appreciation right or other equity award to acquire shares of the Company's common stock granted or issued to Executive.

**9.6** "Good Reason" means any of the following actions that have been taken by the Company without Executive's written consent, provided, that the Company receives, within ninety (90) days following the occurrence of any of the conditions or events set forth in clauses (a) through (d) below, written notice from Executive specifying the specific basis for Executive's belief that Executive is entitled to terminate employment for Good Reason, the Company fails to cure the condition or event constituting Good Reason within thirty (30) days after receipt of such written notice thereof, and Executive terminates employment within thirty (30) days following expiration of such cure period:

**(a)** a material change, adverse to Executive, in Executive's position, titles, offices or duties;

**(b)** an assignment of any significant duties to Executive that are inconsistent with any positions or offices held under this Agreement;

**(c)** a material decrease in Executive's then current annual Base Salary;

**(d)** the relocation of Executive to a facility or a location more than fifty (50) miles from Executive's then current location.

**9.7** "Permanent Disability" means "disability" within the meaning of Section 22(e)(3) of the Code:

**9.8** "Successor" means the Company as defined above and any successor to or assignee of substantially all of its business and/or assets whether or not as part of a Change of Control.

**9.9** "Termination Date" means the effective date of an Executive's "separation from service" as defined (to the extent applicable) in Section 409A and the Treasury Regulations promulgated thereunder.

**9.10** "Termination in Absence of Change of Control" means:

**9.10.1** any termination of Executive's employment by the Company without Cause other than where such termination occurs in connection with a Change of Control or during the twelve (12) month period following the consummation of a Change of Control; or

**9.10.2** any resignation by Executive for Good Reason where such Good Reason does not occur in connection with a Change of Control or does not occur during the twelve (12) month period following the consummation of the Change of Control.

**9.10.3** Notwithstanding the foregoing, the term "Termination in Absence of Change of Control" shall not include any termination of Executive's employment (1) by the Company for Cause; (2) by the Company as a result of Executive's Permanent Disability; (3) as a result of Executive's death; or (4) as a result of Executive voluntarily terminating Executive's employment with the Company for other than Good Reason.

**9.11** "Termination Upon Change of Control" means:

**9.11.1** any termination of the employment of Executive by the Company without Cause that occurs in connection with a Change of Control or during the twelve (12) month period following the consummation of a Change of Control; or

**9.11.2** any resignation by Executive for Good Reason that occurs in connection with a Change of Control or during the twelve (12) month period following the consummation of a Change of Control.

**9.11.3** Notwithstanding the foregoing, the term "Termination Upon Change of Control" shall not include any termination of Executive's employment (1) by the Company for Cause; (2) by the Company as a result of Executive's Permanent Disability; (3) as a result of Executive's death; or (4) as a result of Executive's voluntary termination of Executive's employment with the Company other than for Good Reason.

**10.** RELEASE OF CLAIMS

Executive's receipt of payments and benefits under this Agreement is conditioned upon the delivery by Executive of a signed and effective Termination Release; provided, however, that Executive shall not be required to release any rights Executive may have to be indemnified by the Company.

**11.** NONCUMULATION OF BENEFITS

Executive may not cumulate cash severance payments, acceleration of Equity Award vesting or other termination benefits under both this Agreement, any other written agreement with the Company and/or another plan or policy of the Company. If Executive has any other binding written agreement or other binding arrangement with the Company that provide that upon a change of control or termination of employment Executive shall receive change of control, termination, severance or similar benefits, then Executive hereby expressly waives Executive's rights to such other benefits and any agreement providing such benefits terminates and is superseded on the Effective Date of this Agreement.

**12.** PROPRIETARY AND CONFIDENTIAL INFORMATION

Executive's receipt of the payments and benefits described in this Agreement are conditioned upon Executive's acknowledgment of Executive's continuing obligation under the Theraclone Sciences, Inc. confidential information and assignment agreement, and Executive's agreement to execute and abide by the terms and conditions of the Company's confidential information and assignment agreement (the "**Information Agreement**") between Executive and the Company. Accordingly, during the term of this Agreement and following the Termination Date, Executive agrees to continue to abide by the terms and conditions of the Information Agreement.

**13.** INDEMNIFICATION

The Company will indemnify Executive with respect to activities in connection with employment hereunder to the fullest extent provided in the Company's bylaws. Executive will be named as an insured on the director and officer liability insurance policy currently maintained, or as may be maintained by the Company from time to time, and, in addition, Executive will enter into the form of Indemnification Agreement provided to other similarly situated executive officers and directors of the Company.

**14.** ARBITRATION

**14.1** Disputes Subject to Arbitration. Executive and the Company agree to submit to mandatory binding arbitration, in King County, Washington, any and all claims arising out of or related to this Agreement and Executive's employment with the Company and the termination thereof, except that each party may, at its or his option, seek injunctive relief in court related to the improper use, disclosure or misappropriation of a party's proprietary, confidential or trade secret information. EXECUTIVE AND THE COMPANY HEREBY WAIVE ANY RIGHTS TO TRIAL BY JURY IN REGARD TO SUCH CLAIMS. This Agreement to arbitrate does not restrict Executive's right to file administrative claims Executive may bring before any government agency where, as a matter of law, the parties may not restrict Executive's ability to file such claims (including, but not limited to, the National Labor Relations Board, the Equal Employment Opportunity Commission and the Department of Labor). However, Executive and the Company agree that, to the fullest extent permitted by law, arbitration shall be the exclusive remedy for the subject matter of such administrative claims. The arbitration shall be conducted through JAMS before a single neutral arbitrator, in accordance with the JAMS employment arbitration rules then in effect. The arbitrator shall issue a written decision that contains the essential findings and conclusions on which the decision is based.

**14.2** Site of Arbitration. The site of the arbitration proceeding shall be in King County, State of Washington.

**15.** NOTICES

For purposes of this Agreement, notices and all other communications provided for in this Agreement shall be in writing and shall be deemed to have been duly given when delivered or mailed return receipt requested as follows:

If to the Company:
PharmAthene, Inc.
1124 Columbia Street, Suite 300
Seattle, WA 98104

and, if to Executive, at such address specified by Executive in writing to the Company. Either party may provide the other with notices of change of address, which shall be effective upon receipt.

**16.** MISCELLANEOUS PROVISIONS

**16.1** Heirs and Representatives of Executive; Successors and Assigns of the Company. This Agreement shall be binding upon and shall inure to the benefit of and be enforceable by Executive's personal and legal representatives, executors, administrators, successors, heirs, distributees, devises and legatees. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the successors and assigns of the Company.

**16.2** No Assignment of Rights. The interest of Executive in this Agreement or in any distribution to be made under this Agreement may not be assigned, pledged, alienated, anticipated, or otherwise encumbered (either at law or in equity) and shall not be subject to attachment, bankruptcy, garnishment, levy, execution, or other legal or equitable process. Any act in violation of this Section 16.2 shall be void.

**16.3** Amendment; Waiver. No provision of this Agreement shall be modified, amended, waived or discharged unless the modification, amendment, waiver or discharge is agreed to in writing and signed by Executive and by an authorized officer of the Company (other than Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

**16.4** Entire Agreement. This Agreement represents the entire agreement and understanding between the parties as to the subject matter herein (whether oral or written and whether express or implied) and expressly supersedes any existing agreement or understanding providing for any employment, change of control, severance, termination or similar benefits by and between Executive and the Company or by and between Executive and Theraclone Sciences, Inc., including, for the avoidance of doubt, that certain Executive Employment Agreement by and between Executive and Theraclone Sciences, Inc. dated as of December 2, 2011.

**16.5** Withholding Taxes; 409A. All payments made under this Agreement shall be subject to reduction to reflect all federal, state, local and other taxes required to be withheld by applicable law. To the extent (a) any payments or benefits to which Executive becomes entitled under this Agreement, or under any agreement or plan referenced herein, in connection with Executive's termination of employment with the Company constitute deferred compensation subject to Section 409A of the Code ("**Section 409A**") and (b) Executive is deemed at the time of such termination of employment to be a "specified employee" under Section 409A of the Code, then such payments shall not be made or commenced until the earliest of (i) the expiration of the six (6)-month period measured from the date of Executive's "separation from service" (as such term is at the time defined in Treasury Regulations under Section 409A of the Code) from the Company; or (ii) the date of Executive's death following such separation from service; provided, however, that such deferral shall only be effected to the extent required to avoid adverse tax treatment to Executive, including, without limitation, the additional twenty percent (20%) tax for which Executive would otherwise be liable under Section 409A(a)(1)(B) of the Code in the absence of such deferral. Upon the expiration of the applicable deferral period, any payments which would have otherwise been made during that period (whether in a single sum or in installments) in the absence of this paragraph shall be paid to Executive or Executive's beneficiary in one lump sum (without interest). Any termination of Executive's employment is intended to constitute a "separation from service" as such term is defined in Treasury Regulation Section 1.409A-1. It is intended that each installment of the payments provided hereunder constitute separate "payments" for purposes of Treasury Regulation Section 1.409A-2(b)(2)(i). It is further intended that payments hereunder satisfy, to the greatest extent possible, the exemption from the application of Code Section 409A (and any state law of similar effect) provided under Treasury Regulation Section 1.409A-1(b)(4) (as a "short-term deferral"). Except as otherwise expressly provided herein, to the extent any expense reimbursement or the provision of any in-kind benefit under this Agreement is determined to be subject to Section 409A of the Code, the amount of any such expenses eligible for reimbursement, or the provision of any in-kind benefit, in one calendar year shall not affect the expenses eligible for reimbursement in any other taxable year (except for any lifetime or other aggregate limitation applicable to medical expenses), in no event shall any expenses be reimbursed after the last day of the calendar year following the calendar year in which Executive incurred such expenses, and in no event shall any right to reimbursement or the provision of any in-kind benefit be subject to liquidation or exchange for another benefit.

**16.6** Severability. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

**16.7** Choice of Law. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the state of Washington, without regard to where Executive has his residence or principal office or where he performs his duties hereunder.

**16.8** Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original but all of which, taken together, constitute one and the same agreement.

**16.9** Attorneys' Fees. In the event of any claim, demand or suit arising out of or with respect to this Agreement, Executive following a prevailing judgment shall be entitled to reasonable costs and attorneys' fees, including any such costs and fees upon appeal.

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year set forth below.

**CLIFFORD J. STOCKS**

_____

Dated: _____

**PHARMATHENE, INC.**

_____

By: _____

Title: Chairman of the Board

Dated: _____

**Exhibit 10.64**

**LEASE AGREEMENT**

THIS LEASE AGREEMENT (this "**Lease**") is made this 24th day of May, 2007, between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), and **SPALTUDAQ CORP.**, a Delaware corporation ("**Tenant**").

**Address:** 1124 Columbia Street, Seattle, Washington

**Premises:** The entire 3rd floor of the Building, containing approximately 24,346 rentable square feet, as determined by Landlord, as shown on **Exhibit A**.

**Project:** The real property on which the building (the "**Building**") in which the Premises are located, together with all improvements thereon and appurtenances thereto as described on **Exhibit B**.

**Base Rent:** $31.07 per rentable square foot per year, subject to adjustment as provided in Section 4 hereof.

**Rentable Area of Premises:** 24,346 sq. ft.

**Rentable Area of Project:** 203,817 sq. ft.

**Tenant's Share of Operating Expenses:** 11.95%

**Security Deposit:** $63,035.85 **Target Commencement Date:** May 21, 2007

**Rent Commencement Date:** The date that is 60 days after the Commencement Date.

**Rent Adjustment Percentage:** The greater of 3% or the CPI Adjustment Percentage not to exceed 6%.

**Base Term:** Beginning on the Commencement Date and ending 60 months from the first day of the first full month following the Rent Commencement Date.

**Permitted Use:** Research and development laboratory, related office and other related uses consistent with the character of the Project and otherwise in compliance with the provisions of Section 7 hereof.

**Address for Rent Payment:**
385 E. Colorado Boulevard, Suite 299
Pasadena, CA 91101
Attention: Accounts Receivable

**Landlord's Notice Address:**
385 E. Colorado Boulevard, Suite 299
Pasadena, CA 91101
Attention: Corporate Secretary

**Tenant's Notice Address:**
1124 Columbia Street, Suite 300
Seattle, Washington 98104
Attention: Russ Hawkinson

The following Exhibits and Addenda are attached hereto and incorporated herein by this reference:

x **EXHIBIT A** - PREMISES DESCRIPTION
x **EXHIBIT B** - DESCRIPTION OF PROJECT
x **EXHIBIT C** – WORK LETTER
x **EXHIBIT D** - COMMENCEMENT DATE
x **EXHIBIT E** - RULES AND REGULATIONS
x **EXHIBIT F** – TENANT'S PERSONAL PROPERTY
x **EXHIBIT G** – REMOVABLE IMPROVEMENTS

1. **Lease of Premises**. Upon and subject to all of the terms and conditions hereof, Landlord hereby leases the Premises to Tenant and Tenant hereby leases the Premises from Landlord. The portions of the Project which are for the non-exclusive use of tenants of the Project are collectively referred to herein as the "**Common Areas**." Landlord reserves the right to modify Common Areas, provided that such modifications do not materially adversely affect Tenant's access to and use of the Premises for the Permitted Use.

2. **Delivery; Acceptance of Premises; Commencement Date**.

(a) If Landlord does not Deliver the Premises on or before the Target Commencement Date, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and this Lease shall not be void or voidable except as provided herein. "**Delivery**" or "**Deliver**" means Landlord's delivery of the Premises to Tenant.

(b) The "**Commencement Date**" shall be the date that Landlord Delivers the Premises to Tenant. Landlord shall Deliver the Premises to Tenant 1 business day after (i) the mutual execution and delivery of this Lease by the parties, and (ii) Tenant's delivery to Landlord of certificates of insurance as required pursuant to Section 17 hereof and payment to Landlord of the first month's Base Rent and the Security Deposit. The "**Rent Commencement Date**" shall be the later of (x) the date that is 60 days after the Commencement Date, or (y) the date of substantial completion of Landlord's Work. Upon request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Commencement Date, the "Rent Commencement Date" and the expiration date of the Term when such are established in the form of the "Acknowledgement of Commencement Date" attached to this Lease as **Exhibit D**; provided, however, Tenant's failure to execute and deliver such acknowledgment shall not affect Landlord's rights hereunder. The "**Term**" of this Lease shall be the Base Term, as defined above on the first page of this Lease and any Extension Terms which Tenant may elect pursuant to Section 40 hereof.

(c) Tenant acknowledges that following the Commencement Date, Landlord shall require access to the Premises in order to complete Landlord's Work. Landlord and its contractors and agents shall have the right to enter the Premises to perform Landlord's Work and Tenant shall cooperate with Landlord in connection with the same. Tenant acknowledges that Landlord's performance of Landlord's Work may adversely affect Tenant's use and occupancy of the Premises. Tenant waives all claims against Landlord in connection with Landlord's Work. "**Landlord's Work**" means sealing the existing access opening between the Premises and the second floor of the Building in accordance with all applicable Legal Requirements (as defined in Section 7 hereof). Landlord's Work shall be constructed at Landlord's sole cost and expense.

(d) If Landlord's Work is not substantially completed within 120 days following the Commencement Date for any reason other than Force Majeure delays or delays caused by Tenant, this Lease may be terminated by Landlord or Tenant by written notice to the other, and if so terminated by either: (a) the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant, and (b) neither Landlord nor Tenant shall have any further rights, duties or obligations under this Lease, except with respect to provisions which expressly survive termination of this Lease. If neither Landlord nor Tenant elects to void this Lease within 10 business days of the lapse of such 120 day period, such right to void this Lease shall be waived and this Lease shall remain in full force and effect.

(e) Except as set forth in the Work Letter, if applicable, and subject to completion of Landlord's Work: (i) Tenant shall accept the Premises in their condition as of the Commencement Date; (ii) Landlord shall have no obligation for any defects in the Premises except for defects arising from the failure of Landlord's Work to comply with applicable Legal Requirements; and (iii) Tenant's taking possession of the Premises shall be conclusive evidence that Tenant accepts the Premises and that the Premises were in good condition at the time possession was taken.

(f) Tenant agrees and acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Premises or the Project, and/or the suitability of the Premises or the Project for the conduct of Tenant's business, and Tenant waives any implied warranty that the Premises or the Project are suitable for the Permitted Use. This Lease constitutes the complete agreement of Landlord and Tenant with respect to the subject matter hereof and supersedes any and all prior representations, inducements, promises, agreements, understandings and negotiations which are not contained herein. Landlord in executing this Lease does so in reliance upon Tenant's representations, warranties, acknowledgments and agreements contained herein.

(g) Upon Tenant's written request, within 90 days following the Rent Commencement Date, Landlord shall, as Tenant's sole cost and expense, measure the rentable square footage of the Project and the Premises. Such measurement shall be performed in accordance with the 1996 Standard Method of Measuring Floor Area in Office Buildings as adopted by the Building Owners and Managers Association (ANSI/BOMA Z65.1-1996) ("BOMA Standards"). If the actual square footage of the Premises and/or the Project deviates from the amount specified in the definitions of "**Premises**", "**Rentable Area of Premises**" and "**Rentable Area of Project**" on page 1 of this Lease, then, promptly following such measurement, this Lease shall be amended so as to (i) reflect the actual square footage thereof in the definitions of "**Premises**", "**Rentable Area of Premises**" and "**Rentable Area of Project**", and (ii) appropriately adjust the amount set forth in the definition of "**Tenant's Share of Operating Expenses**" which was calculated based on the estimated square footage of the Premises and the Project.

3. **Rent**.

(a) **Base Rent**. Tenant shall pay to Landlord in advance, without demand, abatement, deduction or set-off, monthly installments of Base Rent on or before the first day of each calendar month during the Term hereof after the Rent Commencement Date, in lawful money of the United States of America, at the office of Landlord for payment of Rent set forth above, or to such other person or at such other place as Landlord may from time to time designate in writing. Payments of Base Rent for any fractional calendar month shall be prorated. The obligation of Tenant to pay Base Rent and other sums to Landlord and the obligations of Landlord under this Lease are independent obligations. Tenant shall have no right at any time to abate, reduce, or set-off any Rent (as defined in Section 5) due hereunder except for any abatement as may be expressly provided in this Lease. Notwithstanding the amount set forth as Base Rent on page 1 of this Lease, for the first 12 months after the Rent Commencement Date, Tenant shall only be required to pay Base Rent in the amount of $51,783.33 per month.

(b) **Additional Rent**. In addition to Base Rent, Tenant agrees to pay to Landlord as additional rent ("**Additional Rent**"): (i) Tenant's Share of "Operating Expenses" (as defined in Section 5), and (ii) any and all other amounts Tenant assumes or agrees to pay under the provisions of this Lease, including, without limitation, any and all other sums that may become due by reason of any default of Tenant or failure to comply with the agreements, terms, covenants and conditions of this Lease to be performed by Tenant, after any applicable notice and cure period.

4. **Base Rent Adjustments**.

(a) **Additional Tenant Improvement Allowance**. In addition to the Tenant Improvement Allowance (as defined in the Work Letter), Landlord shall, subject to the terms of the Work Letter, make available to Tenant an additional tenant improvement allowance ("**Additional TI Allowance**") for the construction of the Tenant Improvements (as defined in the Work Letter) in the Premises of up to $300,000.00. Base Rent shall be increased by the amount necessary to fully amortize the portion of the Additional TI Allowance funded by Landlord pursuant to Section 5 of the Work Letter in equal payments with interest at a rate of 10% per annum over the period from the Rent Commencement Date to the scheduled expiration date of the Base Term. The Additional TI Allowance shall only be available for use by Tenant as part of the construction of the initial Tenant Improvements and Tenant shall have no right thereafter to use any undisbursed portion thereof.

(b) **Annual Adjustments**. Base Rent shall be increased on each annual anniversary of the Rent Commencement Date during the Term of this Lease (each an "**Adjustment Date**") by multiplying the Base Rent payable immediately before such Adjustment Date by the Rent Adjustment Percentage and adding the resulting amount to the Base Rent payable immediately before such Adjustment Date. Base Rent, as so adjusted, shall thereafter be due as provided herein. Base Rent adjustments for any fractional calendar month shall be prorated. "**CPI Adjustment Percentage**" means (i) a fraction, stated as a percentage, the numerator of which shall be the Index for the calendar month 3 months before the month in which the Adjustment Date occurs, and the denominator of which shall be the index for the calendar month 3 months before the last Adjustment Date or, if no prior Base Rent adjustment has been made, 3 months before the first day of the first full month during the Term of this Lease, less (ii) 100%. "**Index**" means the "Consumer Price Index-All Urban Consumers-Seattle, Tacoma, Bremerton WA Area, All items" compiled by the U.S. Department of Labor, Bureau of Labor Statistics, (1982-84 = 100). If a substantial change is made in the Index, the revised Index shall be used, subject to such adjustments as Landlord may reasonably deem appropriate in order to make the revised Index comparable to the prior Index. If the Bureau of Labor Statistics ceases to publish the Index, then the successor or most nearly comparable index, as reasonably determined by Landlord, shall be used, subject to such adjustments as Landlord may reasonably deem appropriate in order to make the new index comparable to the Index. Landlord shall give Tenant written notice indicating the Base Rent, as adjusted pursuant to this Section, and the method of computation and Tenant shall pay to Landlord an amount equal to any underpayment of Base Rent by Tenant within 15 days of Landlord's notice to Tenant. Failure to deliver such notice shall not reduce, abate, waive or diminish Tenant's obligation to pay the adjusted Base Rent; provided that Tenant shall not have any liability for late payment of the increase in the Base Rent until such notice is delivered to Tenant.

5. **Operating Expense Payments**.

(a) Landlord shall deliver to Tenant a written estimate of Operating Expenses for each calendar year during the Term (the "**Annual Estimate**"), which may be revised by Landlord from time to time during such calendar year. Commencing on the Commencement Date and thereafter on the first day of each month during the Term, Tenant shall pay Landlord an amount equal to 1/12th of Tenant's Share of the Annual Estimate. Payments for any fractional calendar month shall be prorated.

(b) The term "**Operating Expenses**" means all costs and expenses of any kind or description whatsoever incurred or accrued each calendar year by Landlord with respect to the Project (including, without duplication, Taxes (as defined in Section 9), reasonable reserves consistent with good business practice for future repairs and replacements, capital repairs and improvements amortized over the lesser of 7 years and the useful life of such capital items, and the costs of Landlord's third party property manager or, if there is no third party property manager, administration rent in the amount of 3.0% of Base Rent), excluding only:

(i) the original construction costs of the Project and renovation prior to the date of the Lease and costs of correcting defects in such original construction or renovation;

(ii) capital expenditures for expansion of the Project;

(iii) interest, principal payments of Mortgage (as defined in Section 27) debts of Landlord, financing costs and amortization of funds borrowed by Landlord, whether secured or unsecured and all payments of base rent (but not taxes or operating expenses) under any ground lease or other underlying lease of all or any portion of the Project;

(iv) depreciation of the Project (except for capital improvements, the cost of which are includable in Operating Expenses);

(v) advertising, legal and space planning expenses and leasing commissions and other costs and expenses incurred in procuring and leasing space to tenants for the Project, including any leasing office maintained in the Project, free rent and construction allowances for tenants;

(vi) legal and other expenses incurred in the negotiation or enforcement of leases;

(vii) completing, fixturing, improving, renovating, painting, redecorating or other work, which Landlord pays for or performs for other tenants within their premises, and costs of correcting defects in such work;

(viii) costs of utilities outside normal business hours sold to tenants of the Project;

(ix) costs to be reimbursed by other tenants of the Project or Taxes to be paid directly by Tenant or other tenants of the Project, whether or not actually paid;

(x) salaries, wages, benefits and other compensation paid to officers and employees of Landlord who are not assigned in whole or in part to the operation, management, maintenance or repair of the Project;

(xi) general organizational, administrative and overhead costs relating to maintaining Landlord's existence, either as a corporation, partnership, or other entity, including general corporate, legal and accounting expenses;

(xii) costs (including attorneys' fees and costs of settlement, judgments and payments in lieu thereof) incurred in connection with disputes with tenants, other occupants, or prospective tenants, and costs and expenses, including legal fees, incurred in connection with negotiations or disputes with employees, consultants, management agents, leasing agents, purchasers or mortgagees of the Building;

(xiii) costs incurred by Landlord due to the violation by Landlord, its employees, agents or contractors or any tenant of the terms and conditions of any lease of space in the Project or any Legal Requirement (as defined in Section 7);

(xiv) penalties, fines or interest incurred as a result of Landlord's inability or failure to make payment of Taxes and/or to file any tax or informational returns when due, or from Landlord's failure to make any payment of Taxes required to be made by Landlord hereunder before delinquency;

(xv) overhead and profit increment paid to Landlord or to subsidiaries or affiliates of Landlord for goods and/or services in or to the Project to the extent the same exceeds the costs of such goods and/or services rendered by unaffiliated third parties on a competitive basis;

(xvi) costs of Landlord's charitable or political contributions, or of fine art maintained at the Project;

(xvii) costs in connection with services (including electricity), items or other benefits of a type which are not standard for the Project and which are not available to Tenant without specific charges therefor, but which are provided to another tenant or occupant of the Project, whether or not such other tenant or occupant is specifically charged therefor by Landlord;

(xviii) costs incurred in the sale or refinancing of the Project;

(xix) net income taxes of Landlord or the owner of any interest in the Project, franchise, capital stock, gift, estate or inheritance taxes or any federal, state or local documentary taxes imposed against the Project or any portion thereof or interest therein;

(xx) capital expenditures required solely as a result of Landlord's failure to comply with Legal Requirements in effect before the Commencement Date;

(xxi) costs incurred by Landlord for the repair of damage to the Building to the extent that Landlord is actually reimbursed by insurance proceeds;

(xxii) electric power costs for which any tenant directly contracts with the local public service company;

(xxiii) costs incurred in connection with upgrading the Building to comply with handicap, life, fire and safety codes in effect prior to the Commencement Date;

(xxiv) costs incurred in connection with environmental clean up, response action or remediation on, in or under or about the Project, to the extent related to known conditions existing in, on or under or about the Project on or before the Commencement Date;

(xxv) costs arising from latent defects in the original construction of the Project prior to the date of this Lease in all or any portion of the structural, exterior, parking and other Common Areas, including any Building Systems;

(xxvi) costs incurred by Landlord in providing entertainment (including but not limited to musical performances, exhibits, contests, meals, etc.) where such entertainment is not specifically related to promotion or advertising;

(xxvii) rental concessions or lease buyouts;

(xxviii) expenses incurred in relocating tenants in the Building;

(xxix) the cost of installing, operating and maintaining any specialty service or special facility such as a health club (not including locker rooms), cafeteria or dining facility; and

(xxx) any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by persons other than tenants of the Project under leases for space in the Project.

Within 90 days after the end of each calendar year (or such longer period as may be reasonably required), Landlord shall furnish to Tenant a statement (an "**Annual Statement**") showing in reasonable detail: (i) the total and Tenant's Share of actual Operating Expenses for the previous calendar year, and (ii) the total of Tenant's payments in respect of Operating Expenses for such year. If Tenant's Share of actual Operating Expenses for such year exceeds Tenant's payments of Operating Expenses for such year, the excess shall be due and payable by Tenant as Rent within 30 days after delivery of such Annual Statement to Tenant. If Tenant's payments of Operating Expenses for such year exceed Tenant's Share of actual Operating Expenses for such year Landlord shall pay the excess to Tenant within 30 days after delivery of such Annual Statement, except that after the expiration, or earlier termination of the Term or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord,

The Annual Statement shall be final and binding upon Tenant unless Tenant, within 90 days after Tenant's receipt thereof, shelf contest any item therein by giving written notice to Landlord, specifying each item contested and the reason therefor. Operating Expenses for the calendar years in which Tenant's obligation to share therein begins and ends shall be prorated. if, during such 90 day period, Tenant reasonably and in good faith questions or contests the accuracy of Landlord's statement of Tenant's Operating Expense Obligation, Landlord will provide Tenant with access to Landlord's books and records relating to the operation of the Project and such information as Landlord reasonably determines to be responsive to Tenant's questions (the "**Expense Information**"). If after Tenant's review of such Expense Information, Landlord and Tenant cannot agree upon the amount of Tenant's Operating Expense Obligation, then Tenant shall have the right to have an independent public accounting firm selected by Tenant from among the 5 largest in the United States, working pursuant to a fee arrangement other than a contingent fee (at Tenant's sole cost and expense) and approved by Landlord (which approval shall not be unreasonably withheld or delayed), audit and/or review the Expense Information for the year in question (the "**Independent Review**"). The results of any such Independent Review shall be binding on Landlord and Tenant. If the Independent Review shows that the payments actually made by Tenant with respect to Tenant's estimated Operating Expense Obligation for the calendar year in question exceeded Tenant's actual Operating Expense Obligation for such calendar year, Landlord shall at Landlord's option either (i) credit the excess amount to the next succeeding installments of Tenant's estimated Operating Expense Obligation or (ii) pay the excess to Tenant within 30 days after delivery of such statement, except that after the expiration or earlier termination of this Lease or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord. If the Independent Review shows that Tenant's payments with respect to Tenant's Operating Expense Obligation for such calendar year were less than Tenant's actual Operating Expense Obligation for the calendar year, Tenant shall pay the deficiency to Landlord within 30 days after delivery of such statement. if the Independent Review shows that Tenant has overpaid with respect to Tenant's Operating Expense Obligation by more than 5% then Landlord shall reimburse Tenant for all costs incurred by Tenant for the Independent Review. Notwithstanding anything set forth herein to the contrary, if the Project is not at least 95% occupied on average during any year of the Term, Tenant's Share of Operating Expenses for such year shall be computed as though the Project had been 95% occupied on average during such year.

"**Tenant's Share**" shall be the percentage set forth on the first page of this Lease as Tenant's Share as reasonably adjusted by Landlord for changes in the physical size of the Premises or the Project occurring thereafter. Landlord may equitably increase Tenant's Share for any item of expense or cost reimbursable by Tenant that relates to a repair, replacement, or service that benefits only the Premises or only a portion of the Project that includes the Premises or that varies with occupancy or use. Base Rent, Tenant's Share of Operating Expenses and all other amounts payable by Tenant to Landlord hereunder are collectively referred to herein as "**Rent**."

6. **Security Deposit**.

(a) Tenant shall deposit with Landlord, upon delivery of an executed copy of this Lease to Landlord, a security deposit (the "**Security Deposit**") for the performance of all of Tenant's obligations hereunder in the amount set forth on page 1 of this Lease, which Security Deposit shall be in the form of an unconditional and irrevocable letter of credit (the "**Letter of Credit**"): (i) in form and substance satisfactory to Landlord, (ii) naming Landlord as beneficiary, (iii) expressly allowing Landlord to draw upon it at any time from time to time by delivering to the issuer notice that Landlord Is entitled to draw thereunder, (iv) Issued by an FDIC-insured financial institution satisfactory to Landlord, and (v) redeemable by presentation of a sight draft in the state of Landlord's choice. if Tenant does not provide Landlord with a substitute Letter of Credit complying with all of the requirements hereof at least 10 days before the stated expiration date of any then current Letter of Credit, Landlord shall have the right to draw the full amount of the current Letter of Credit and hold the funds drawn in cash without obligation for interest thereon as the Security Deposit. The Security Deposit shall be held by Landlord as security for the performance of Tenant's obligations under this Lease. The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. Upon each occurrence of a Default (as defined in Section 20), Landlord may use all or any part of the Security Deposit to pay delinquent payments due under this Lease, future rent damages, and the cost of any damage, injury, expense or liability caused by such Default, without prejudice to any other remedy provided herein or provided by law. Landlord's right to use the Security Deposit under this Section 6 includes the right to use the Security Deposit to pay future rent damages following the termination of this Lease pursuant to Section 21(c) below. Upon any use of all or any portion of the Security Deposit, Tenant shall pay Landlord on demand the amount that will restore the Security Deposit to the amount set forth on Page 1 of this Lease. Tenant hereby waives the provisions of any law, now or hereafter in force, which provide that Landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of Rent, to repair damage caused by Tenant or to clean the Premises, it being agreed that Landlord may, in addition, claim those sums reasonably necessary to compensate Landlord for any other loss or damage, foreseeable or unforeseeable, caused by the act or omission of Tenant or any officer, employee, agent or invitee of Tenant. Upon bankruptcy or other debtor-creditor proceedings against Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for periods prior to the filing of such proceedings. Upon any such use of all or any portion of the Security Deposit, Tenant shall, within 5 business days after demand from Landlord, restore the Security Deposit to its original amount. If Tenant shall fully perform every provision of this Lease to be performed by Tenant, the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) within 90 days after the expiration or earlier termination of this Lease.

(b) If Landlord transfers its interest in the Project or this Lease, Landlord shall either (i) transfer any Security Deposit then held by Landlord to a person or entity assuming Landlord's obligations under this Section 6, or (ii) return to Tenant any Security Deposit then held by Landlord and remaining after the deductions permitted herein. Upon such transfer to such transferee or the return of the Security Deposit to Tenant, Landlord shall have no further obligation with respect to the Security Deposit, and Tenant's right to the return of the Security Deposit shall apply solely against Landlord's transferee. Landlord's obligation respecting the Security Deposit is that of a debtor, not a trustee, and no interest shall accrue thereon.

7. **Use**.

(a) The Premises shall be used solely for the Permitted Use set forth in the basic lease provisions on page 1 of this Lease, and in compliance with all laws, orders, judgments, ordinances, regulations, codes, directives, permits, licenses, covenants and restrictions now or hereafter applicable to the Premises, and to the use and occupancy thereof, including, without limitation, the Americans With Disabilities Act, 42 U.S.C. § 12101, et seq. (together with the regulations promulgated pursuant thereto, "**ADA**") (collectively, "**Legal Requirements**" and each, a "**Legal Requirement**"). Tenant shall, upon 10 business days' written notice from Landlord, discontinue any use of the Premises which is declared by any Governmental Authority (as defined in Section 9) having jurisdiction to be a violation of a Legal Requirement. Tenant will not use or permit the Premises to be used for any purpose or in any manner that would void Tenant's or Landlord's insurance, increase the insurance risk, or cause the disallowance of any sprinkler or other credits. Tenant shall not permit any part of the Premises to be used as a "place of public accommodation", as defined in the ADA or any similar Legal Requirement. Tenant shall reimburse Landlord promptly upon demand for any additional premium charged for any such insurance policy by reason of Tenant's failure to comply with the provisions of this Section or otherwise caused by Tenant's use and/or occupancy of the Premises. Tenant will use the Premises in a careful, safe and proper manner and will not commit or permit waste, overload the floor or structure of the Premises, subject the Premises to use that would damage the Premises or obstruct or interfere with the rights of Landlord or other tenants or occupants of the Project, including conducting or giving notice of any auction, liquidation, or going out of business sale on the Premises, or using or allowing the Premises to be used for any unlawful purpose. Tenant shall cause any equipment or machinery to be installed in the Premises so as to reasonably prevent sounds or vibrations from the Premises from extending into Common Areas, or other space in the Project. Tenant shall not place any machinery or equipment weighing 500 pounds or more in or upon the Premises or transport or move such items through the Common Areas of the Project or in the Project elevators without the prior written consent of Landlord, which shall not be unreasonably withheld. Landlord acknowledges that Tenant intends to install an irradiator in the Premises, the weight of which will exceed 500 pounds and will require movement through Common Areas, and Landlord consents thereto, subject to (i) the delivery to Landlord of a report prepared by a structural engineer reasonably acceptable to Landlord confirming that the installation of the irradiator within the Premises will not adversely affect the structural integrity of the floor, and (ii) coordination of the move and installation with Landlord. Except as may be provided under the Work Letter, Tenant shall not, without the prior written consent of Landlord, use the Premises in any manner which will require ventilation, air exchange, heating, gas, steam, electricity or water beyond the existing capacity of the Project as proportionately allocated to the Premises based upon Tenant's Share as usually furnished for the Permitted Use.

(b) Tenant shall make any alterations or modifications to the interior or the exterior of the Premises or the Project that are required by Legal Requirements (including, without limitation, compliance of the Premises with the ADA) related to Tenant's use or occupancy of the Premises, at Tenant's sole expense. Notwithstanding anything to the contrary contained herein, Landlord shall be responsible, subject to reimbursement as part of Operating Expenses, for making (i) all improvements and alterations to the Project (outside of the Premises) which are required to cause the same to comply with all present and future Legal Requirements, and (ii) structural improvements or alterations to the Project (including the Premises) which are required to cause the same to comply with all present and future Legal Requirements, unless in either clause (i) or (ii) such improvements or alterations are required by virtue of Tenant's particular manner of use of the Premises or are required as a result of improvements, alterations or modifications made by Tenant.

(c) Notwithstanding any other provision herein to the contrary, Tenant shall be responsible for any and all Claims arising out of or In connection with Tenant's failure to meet Tenant's obligations under this Lease to comply with Legal Requirements. As used herein, "**Claims**" shall mean any and all demands, claims, liabilities, losses, costs, expenses, actions, causes of action, damages or judgments, and all reasonable expenses incurred in investigating or resisting the same (including, without limitation, reasonable attorneys' fees, charges and disbursements and costs of suit).

8. **Holding Over**. If, with Landlord's express written consent, Tenant retains possession of the Premises after the termination of the Term, unless otherwise agreed in such written consent, (i) such possession shall be subject to immediate termination by Landlord at any time, (ii) all of the other terms and provisions of this Lease (including, without limitation, the adjustment of Base Rent pursuant to Section 4 hereof) shall remain in full force and effect (excluding any expansion or renewal option or other similar right or option) during such holdover period, (iii) Tenant shall continue to pay Base Rent in the amount payable upon the date of the expiration or earlier termination of this Lease or such other amount as Landlord may indicate, in Landlord's sole and absolute discretion, in such written consent, which shall not exceed 150% of Rent in effect during the last 30 days of the Term, and (iv) all other payments shall continue under the terms of this Lease, If Tenant remains in possession of the Premises after the expiration or earlier termination of the Term without the express written consent of Landlord, (a) Tenant shall become a tenant at sufferance upon the terms of this Lease except that the monthly rental shall be equal to 150% of Rent in effect during the last 30 days of the Term, and (b) Tenant shall be responsible for all damages suffered by Landlord resulting from or occasioned by Tenant's holding over, including consequential damages. No holding over by Tenant, whether with or without consent of Landlord, shall operate to extend this Lease except as otherwise expressly provided, and this Section 8 shall not be construed as consent for Tenant to retain possession of the Premises. Acceptance by Landlord of Rent after the expiration of the Term or earlier termination of this Lease shall not result in a renewal or reinstatement of this Lease.

9. **Taxes**. Landlord shall pay, as part of Operating Expenses, all taxes, levies, assessments and governmental charges of any kind (collectively referred to as "**Taxes**") Imposed by any federal, state, regional, municipal, local or other governmental authority or agency, including, without limitation, quasi-public agencies (collectively, "**Governmental Authority**") during the Term, including, without limitation, all Taxes: (i) imposed on or measured by or based, in whole or in part, on rent payable to Landlord under this Lease and/or from the rental by Landlord of the Project or any portion thereof, or (ii) based on the square footage, assessed value or other measure or evaluation of any kind of the Premises or the Project, or (iii) assessed or imposed by or on the operation or maintenance of any portion of the Premises or the Project, including parking, or (iv) assessed or imposed by, or at the direction of, or resulting from statutes or regulations, or interpretations thereof, promulgated by, any Governmental Authority, or (v) imposed as a license or other fee on Landlord's business of leasing space in the Project. Landlord may contest by appropriate legal proceedings the amount, validity, or application of any Taxes or liens securing Taxes. Taxes shall not include any net income taxes or business and occupation taxes imposed on Landlord unless such net income taxes or business and occupation taxes are in substitution for any Taxes payable hereunder. If any such Tax is levied or assessed directly against Tenant, then Tenant shall be responsible for and shall pay the same at such times and in such manner as the taxing authority shall require. Tenant shall pay, prior to delinquency, any and all Taxes levied or assessed against any personal property or trade fixtures placed by Tenant in the Premises, whether levied or assessed against Landlord or Tenant. if any Taxes on Tenant's personal property or trade fixtures are levied against Landlord or Landlord's property, or if the assessed valuation of the Project is increased by a value attributable to improvements in or alterations to the Premises, whether owned by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, higher than the base valuation on which Landlord from time-to-time allocates Taxes to all tenants in the Project, Landlord shall have the right, but not the obligation, to pay such Taxes. Landlord's determination of any excess assessed valuation shall be binding and conclusive, absent manifest error. The amount of any such payment by Landlord shall constitute Additional Rent due from Tenant to Landlord Immediately upon demand.

10. **Parking**. Subject to all matters of record, Force Majeure, a Taking (as defined in Section 19 below) and the exercise by Landlord of its rights hereunder, Tenant shall have the right, in common with other tenants of the Project pro rata in accordance with the rentable area of the Premises and the rentable areas of the Project, to park in those areas designated for non-reserved parking on the surface parking lots owned by Landlord and located at the southwest and northwest corners of Boren Avenue and James Street, subject in each case to Landlord's reasonable rules and regulations. Tenant acknowledges that the parking ratio is currently approximately 0.75 spaces per 1,000 rentable square feet of the Premises. if Landlord notifies Tenant from time to time during the Term that additional parking spaces ("**Additional Spaces**") are available and Landlord is willing (without any obligation to do so) to lease the same to Tenant, Tenant shall have the right, within 5 business days after delivery of Landlord's written notice to Tenant, to lease such Additional Spaces from Landlord. If Tenant does not elect to lease such Additional Spaces within such 5 business day period, Tenant shall be deemed to have waived its right to lease Additional Spaces until such time, if at all, that Landlord delivers a subsequent written notice to Tenant that Additional Spaces are available for lease by Tenant. Landlord shall, at any time and from time to time, have the right to recapture any Additional Spaces leased by Tenant.

Tenant's parking rights shall be subject to the payment by Tenant to Landlord, commencing on the Commencement Date, of Landlord's then current charge for parking. Landlord's current charge is $110 per parking space per month. Commencing on the first anniversary of the Commencement Date and on each anniversary thereafter (each, a "**Parking Charge Adjustment Date**"), the parking charges provided for in the preceding sentence ("**Parking Charges**") shall be increased by multiplying the Parking Charges payable immediately before such Parking Charge Adjustment Date by the Rent Adjustment Percentage and adding the resulting amount to the Parking Charges payable immediately before such Parking Charge Adjustment Date. The Parking Charges, as so adjusted, shall thereafter be due as provided herein. Landlord shall give Tenant written notice indicating the Parking Charges, as adjusted pursuant to this Section 10, and the method of computation and Tenant shall pay to Landlord an amount equal to any underpayment of Parking Charges by Tenant within 15 business days of Landlord's notice to Tenant. Failure to deliver such notice shall not reduce, abate, waive or diminish Tenant's obligation to pay the adjusted Parking Charges. Landlord may allocate parking spaces among Tenant and other tenants in the Project pro rata as described above if Landlord determines that such parking facilities are becoming crowded. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including other tenants of the Project.

11. **Utilities, Services**. Landlord shall provide, subject to the terms of this Section 11, water, electricity, heat, light, power, telephone, sewer, and other utilities (including gas and fire sprinklers to the extent the Project is plumbed for such services), refuse and trash collection and janitorial services (collectively, "**Utilities**"). Landlord shall pay, as Operating Expenses or subject to Tenant's reimbursement obligation, for all Utilities used on the Premises, all maintenance charges for Utilities, and any storm sewer charges or other similar charges for Utilities imposed by any Governmental Authority or Utility provider, and any taxes, penalties, surcharges or similar charges thereon. Landlord may cause, at Tenant's expense, any Utilities to be separately metered or charged directly to Tenant by the provider. Tenant shall pay directly to the Utility provider, prior to delinquency, any separately metered Utilities and services which may be furnished to Tenant or the Premises during the Term. Tenant shall pay, as part of Operating Expenses, its share of all charges for jointly metered Utilities based upon consumption, as reasonably determined by Landlord. Upon Tenant's written request, Landlord shall provide Tenant with evidence of the amounts of such jointly metered Utilities and the manner in which Landlord determined Tenant's Share thereof. No Interruption or failure of Utilities, from any cause whatsoever other than Landlord's willful misconduct, shall result in eviction or constructive eviction of Tenant, termination of this Lease or the abatement of Rent. Tenant agrees to limit use of water and sewer with respect to Common Areas to normal restroom use. Tenant shall be solely responsible for contracting and paying for its own in-suite janitorial services. Utilities shall be available to Tenant for use and occupancy of the Premises at any and all times, 24 hours per day, 7 days per week (including without limitation on nights, weekends and holidays), subject to the failure of any Utility provider to provide such Utilities, the performance by Landlord or any Utility provider of any installation, maintenance or repairs, or any other temporary interruptions.

12. **Alterations and Tenant's Property**.

(a) Except as otherwise expressly provided in this Lease or the Work Letter, any alterations, additions, or improvements made to the Premises by or on behalf of Tenant, including additional locks or bolts of any kind or nature upon any doors or windows in the Premises, but excluding installation, removal or realignment of furniture systems (other than removal of furniture systems owned or paid for by Landlord) not involving any modifications to the structure or connections (other then by ordinary plugs or jacks) to Building Systems (as defined in Section 13) ("**Alterations**") shall be subject to Landlord's prior written consent, which may be given or withheld in Landlord's sole discretion if any such Alteration affects the structure or Building Systems. If Landlord approves any Alterations, Landlord may impose reasonable conditions on Tenant in connection with the commencement, performance and completion of such Alterations provided, however, that Landlord will not be acting unreasonably if Landlord disapproves removal or material alteration of laboratory improvements. Any request for approval shall be in writing, delivered not less than 15 business days in advance of any proposed construction, and accompanied by plans, specifications, bid proposals, work contracts and such other information concerning the nature and cost of the alterations as may be reasonably requested by Landlord, including the identities and mailing addresses of all persons performing work or supplying materials. Landlord's right to review plans and specifications and to monitor construction shall be solely for its own benefit, and Landlord shall have no duty to ensure that such plans and specifications or construction comply with applicable Legal Requirements. Tenant shall cause, at its sole cost and expense, all Alterations to comply with Insurance requirements and with Legal Requirements and shall implement at its sole cost and expense any alteration or modification required by Legal Requirements as a result of any Alterations. Tenant shall pay to Landlord, as Additional Rent, on demand an amount equal to 5% of all charges incurred by Tenant or its contractors or agents in connection with any Alteration to cover Landlord's overhead and expenses for plan review, coordination, scheduling and supervision, Before Tenant begins any Alteration, Landlord may post on and about the Premises notices of non-responsibility pursuant to applicable law. Tenant shall reimburse Landlord for, and indemnify and hold Landlord harmless from, any expense incurred by Landlord by reason of faulty work done by Tenant or its contractors, delays caused by such work, or inadequate cleanup.

(b) Tenant shall furnish security or make other arrangements satisfactory to Landlord to assure payment for the completion of all Alterations work free and clear of liens, and shall provide (and cause each contractor or subcontractor to provide) certificates of insurance for workers' compensation and other coverage in amounts and from an insurance company satisfactory to Landlord protecting Landlord against liability for personal injury or property damage during construction. Upon completion of any Alterations, Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and subcontractors who did the work and final lien waivers from all such contractors and subcontractors; and (ii) "as built" plans for any such Alteration.

(c) Except for Tenant's Property (as hereinafter defined), all Installations (as hereinafter defined) shall be and shall remain the property of Landlord during the Term and following the expiration or earlier termination of the Term, shall not be removed by Tenant at any time during the Term, and shall remain upon and be surrendered with the Premises as a part thereof. Notwithstanding the foregoing, Landlord may, at the time its approval of any such Installation is requested, notify Tenant that Landlord requires that Tenant remove such Installation upon the expiration or earlier termination of the Term, in which event Tenant shall remove such installation In accordance with the immediately succeeding sentence. Upon the expiration or earlier termination of the Term, Tenant shall remove (i) all wires, cables or similar equipment which Tenant has installed in the Premises or in the risers or plenums of the Building, (ii) any Installations for which Landlord has given Tenant notice of removal in accordance with the immediately preceding sentence, and (iii) all of Tenant's Property (as hereinafter defined), and Tenant shall restore and repair any damage caused by or occasioned as a result of such removal, including, without limitation, capping off all such connections behind the walls of the Premises and repairing any holes. Tenant shall not be required to remove any wires, cables or similar equipment not installed by Tenant. During any restoration period beyond the expiration or earlier termination of the Term, Tenant shall pay Rent to Landlord as provided herein as if said space were otherwise occupied by Tenant. If Landlord is requested by Tenant or any lender, lessor or other person or entity claiming an interest in any of Tenant' Property to waive any lien Landlord may have against any of Tenant's Property, and Landlord consents to such waiver, then Landlord shall be entitled to be paid as administrative rent a fee of $1,000 per occurrence for its time and effort in preparing and negotiating such a waiver of lien.

(d) For purposes of this Lease, (i) "**Tenant's Property**" means any items listed on Exhibit F attached hereto and any items agreed by Landlord in writing to be included on Exhibit F in the future and other than Installations, any personal property or equipment of Tenant that may be removed without material damage to the Premises, and (ii) "**Installations**" means all property of any kind paid for with the TI Fund, all Alterations, all fixtures, and all partitions, hardware, built-in machinery, built-in casework and cabinets and other similar additions, equipment, property and improvements built into the Premises so as to become an integral part of the Premises, including, without limitation, fume hoods which penetrate the roof or plenum area, built-in cold rooms, built-in warm rooms, walk-in cold rooms, walk-in warm rooms, deionized water systems, glass washing equipment, autoclaves, chillers, built-In plumbing, electrical and mechanical equipment and systems, and any power generator and transfer switch.

13. **Landlord's Repairs**. Landlord, as an Operating Expense, shall maintain all of the structural, exterior, parking and other Common Areas of the Project, including HVAC, plumbing, fire sprinklers, elevators and all other building systems serving the Premises and other portions of the Project ("**Building Systems**"), in good repair, reasonable wear and tear and uninsured losses and damages caused by Tenant, or by any of Tenant's agents, servants, employees, invitees and contractors (collectively, "**Tenant Parties**") excluded. Losses and damages caused by Tenant or any Tenant Party shall be repaired by Landlord, to the extent not covered by insurance, at Tenant's sole cost and expense. Landlord reserves the right to stop Building Systems services when necessary (i) by reason of accident or emergency, or (ii) for planned repairs, alterations or improvements, Which are, in the judgment of Landlord, desirable or necessary to be made, until said repairs, alterations or improvements shall have been completed. Landlord shall have no responsibility or liability for failure to supply Building Systems services during any such period of interruption; provided, however, that Landlord shall, except in case of emergency, give Tenant not less than 24 hours advance notice of any planned stoppage of Building Systems services for routine maintenance, repairs, alterations or improvements. Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this Section (or with respect to any emergency, oral notice followed immediately by written notice), after which Landlord shall make a commercially reasonable effort to effect such repair within a reasonable period. Landlord shall not be liable for any failure to make any repairs or to perform any maintenance unless such failure shall persist for an unreasonable time after Tenant's written notice of the need for such repairs or maintenance. Tenant waives its rights under any state or local law to terminate this Lease or to make such repairs at Landlord's expense and agrees that the parties' respective rights with respect to such matters shall be solely as set forth herein. Notwithstanding the foregoing, Tenant shall have the self-help rights specifically provided for in Section 31(b) hereof. Repairs required as the result of fire, earthquake, flood, vandalism, war, or similar cause of damage or destruction shall be controlled by Section 18.

14. **Tenant's Repairs**. Subject to Section 13 hereof, Tenant, at its expense, shall repair, replace and maintain i all portions of the Premises in the condition received including, without limitation, entries, doors, ceilings, interior windows, interior walls, and the interior side of demising walls, unless such repair, replacement or maintenance is required due to the willful misconduct or gross negligence of Landlord or a Landlord Party (as defined In Section 17(b) hereof). Such repair and replacement may include capital expenditures and repairs whose benefit may extend beyond the Term. Should Tenant fail to make any such repair or replacement or fail to maintain the Premises, Landlord shall give Tenant notice of such failure. If Tenant fails to commence cure of such failure within 10 days of Landlord's notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within 10 days after demand therefor; provided, however, that if such failure by Tenant creates or could create an emergency, Landlord may immediately commence cure of such failure and shall thereafter be entitled to recover the costs of such cure from Tenant. Subject to Sections 17 and 18, Tenant shall bear the full uninsured cost of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party and any repair that benefits only the Premises.

15. **Mechanic's Liens**. Tenant shall discharge, by bond or otherwise, any mechanic's lien filed against the Premises or against the Project for work claimed to have been done for, or materials claimed to have been furnished to, Tenant within 20 days after the filing thereof, at Tenant's sole cost and shall otherwise keep the Premises and the Project free from any liens arising out of work performed, materials furnished or obligations incurred by Tenant. Should Tenant fail to discharge any lien described herein, Landlord shall have the right, but not the obligation, to pay such claim or post a bond or otherwise provide security to eliminate the lien as a claim against title to the Project and the cost thereof shall be immediately due from Tenant as Additional Rent. If Tenant shall lease or finance the acquisition of office :equipment, furnishings, or other personal property of a removable nature utilized by Tenant in the operation of Tenant's business, Tenant warrants that any Uniform Commercial Code Financing Statement filed as a matter of public record by any lessor or creditor of Tenant will upon its face or by exhibit thereto indicate that such Financing Statement is applicable only to removable personal property of Tenant located within the Premises. In no event shall the address of the Project be furnished on the statement without qualifying language as to applicability of the lien only to removable personal property, located in an identified suite held by Tenant.

16. **Indemnification**.

(a) **Indemnification by Tenant**. Tenant hereby indemnifies and agrees to defend, save and hold Landlord harmless from and against any and all Claims for injury or death to persons or damage to property occurring within or about the Premises, arising directly or indirectly out of use or occupancy of the Premises or a breach or default by Tenant in the performance of any of its obligations hereunder, unless caused by the willful misconduct or gross negligence of Landlord. Landlord shall not be liable to Tenant for, and Tenant assumes all risk of damage to, personal property (including, without limitation, loss of records kept within the Premises). Tenant further waives any and all Claims for injury to Tenant's business or loss of income relating to any such damage or destruction of personal property (including, without limitation, any loss of records). Landlord shall not be liable for any damages arising from any act, omission or neglect of any tenant in the Project or of any other third party.

(b) **Indemnification by Landlord**. Landlord hereby indemnifies and agrees to defend, save and hold Tenant harmless from and against any and all Claims for injury or death to persons or damage to property occurring in or about the Project outside of the Premises caused solely by the willful misconduct or gross negligence of Landlord or a Landlord Party.

17. **Insurance**.

(a) Landlord shall maintain all risk property and, if applicable, sprinkler damage insurance covering the full replacement cost of the Project. Landlord shall further procure and maintain commercial general liability insurance with a single loss limit of not less than $2,000,000 for bodily injury and property damage with respect to the Project. Landlord may, but is not obligated to, maintain such other insurance and additional coverages as it may deem necessary, including, but not limited to, flood, environmental hazard and earthquake, loss or failure of building equipment, errors and omissions, rental loss during the period of repair or rebuilding, workers' compensation insurance and fidelity bonds for employees employed to perform services and insurance for any improvements installed by Tenant or which are in addition to the standard improvements customarily furnished by Landlord without regard to whether or not such are made a part of the Project. All such insurance shall be included as part of the Operating Expenses. The Project may be included in a blanket policy (in which case the cost of such insurance allocable to the Project will be determined by Landlord based upon the insurer's cost calculations). Tenant shall also reimburse Landlord for any increased premiums or additional insurance which Landlord reasonably deems necessary as a result of Tenant's use of the Premises.

(b) Tenant, at its sole cost and expense, shall maintain during the Term: all risk property insurance with business interruption and extra expense coverage, covering the full replacement cost of all personal property and trade fixtures installed or placed in the Premises by Tenant at Tenant's expense; workers' compensation insurance with no less than the minimum limits required by law; employer's liability insurance with such limits as required by law; and commercial general liability insurance, with a minimum limit of not less than $2,000,000 per occurrence for bodily injury and property damage with respect to the Premises. The commercial general liability insurance policy shall name Alexandria Real Estate Equities, Inc., and Landlord, its officers, directors, employees, managers, agents, invitees and contractors (collectively, "**Landlord Parties**"), as additional insureds; insure on an occurrence and not a claims-made basis; be issued by insurance companies which have a rating of not less than policyholder rating of A- and financial category rating of at least Class VIII in "Best's Insurance Guide"; shall not be cancelable for nonpayment of premium unless 10 days prior written notice shall have been given to Landlord from the insurer; contain a contractual liability endorsement; contain coverage for smoke from a hostile fire; and provide primary coverage to Landlord (any policy issued to Landlord providing duplicate or similar coverage shall be deemed excess over Tenant's policies). Copies of such policies (if required by any lender of Landlord holding a security interest in the Project or any portion thereof), or certificates of insurance showing the limits of coverage required hereunder and showing Landlord as an additional insured, along with reasonable evidence of the payment of premiums for the applicable period, shall be delivered to Landlord by Tenant upon commencement of the Term and upon each renewal of said insurance. Tenant's policy may be a "blanket policy" with an aggregate per location endorsement which specifically provides that the amount of insurance shall not be prejudiced by other losses covered by the policy. Tenant shall, prior to the expiration of such policies, furnish Landlord with renewal certificates.

(c) In each instance where insurance is to name Landlord as an additional insured, Tenant shall upon written request of Landlord also designate and furnish certificates so evidencing Landlord as additional insured to: (i) any lender of Landlord holding a security interest in the Project or any portion thereof, (ii) the landlord under any lease wherein Landlord is tenant of the real property on which the Project is located, if the interest of Landlord is or shall become that of a tenant under a ground or other underlying lease rather than that of a fee owner, and/or (iii) any management company retained by Landlord to manage the Project.

(d) The property insurance obtained by Landlord and Tenant shall include a waiver of subrogation by the insurers and all rights based upon an assignment from its insured, against Landlord or Tenant, and their respective officers, directors, employees, managers, agents, invitees and contractors ("**Related Parties**"), in connection with any loss or damage thereby insured against. Neither party nor its respective Related Parties shall be liable to the other for loss or damage caused by any risk insured against under property insurance required to be maintained hereunder, and each party waives any claims against the other party, and its respective Related Parties, for such loss or damage. The failure of a party to insure its property shall not void this waiver. Landlord and its respective Related Parties shall not be liable for, and Tenant hereby waives all claims against such parties for, business interruption and losses occasioned thereby sustained by Tenant or any person claiming through Tenant resulting from any accident or occurrence in or upon the Premises or the Project from any cause whatsoever. If the foregoing waivers shall contravene any law with respect to exculpatory agreements, the liability of Landlord or Tenant shall be deemed not released but shall be secondary to the other's insurer.

(e) Landlord may require insurance policy limits to be raised to conform with requirements of Landlord's lender and/or to bring coverage limits to reasonable levels then being generally required of new tenants within the Project.

18. **Restoration**.

(a) lf, at any time during the Term, the Project or the Premises are damaged or destroyed by a fire or other insured casualty ("**Casualty**"), Landlord shall notify Tenant within 60 days after discovery of such Casualty as to the amount of time Landlord reasonably estimates it will take to restore the Project or the Premises, as applicable (the "**Restoration Period**"). If the Restoration Period is estimated to exceed 12 months (the "**Maximum Restoration Period**"), Landlord may, in such notice, elect to terminate this Lease as of the date that is 75 days after the date of discovery of such damage or destruction provided, however, that notwithstanding Landlord's election to restore, Tenant may elect to terminate this Lease by written notice to Landlord delivered within 10 business days of receipt of a notice from Landlord estimating a Restoration Period for the Premises longer than the Maximum Restoration Period. Unless either Landlord or Tenant so elects to terminate this Lease, Landlord shall, subject to receipt of sufficient insurance proceeds (with any deductible to be treated as a current Operating Expense), promptly restore the Premises (excluding the improvements installed by Tenant or by Landlord and paid for by Tenant unless covered by the insurance Landlord maintains as an Operating Expense hereunder, in which case such improvements shall be included, to the extent of such insurance proceeds, in Landlord's restoration), subject to delays arising from the collection of insurance proceeds, from Force Majeure events or as needed to obtain any license, clearance or other authorization of any kind required to enter into and restore the Premises issued by any Governmental Authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials (as defined in Section 30) in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"); provided, however, that if repair or restoration of the Premises is not substantially complete as of the end of the Maximum Restoration Period or, if longer, the Restoration Period, Landlord may, in its sole and absolute discretion, elect not to proceed with such repair and restoration, or Tenant may by written notice to Landlord delivered within 10 business days of the expiration of the Maximum Restoration Period or, if longer, the Restoration Period, elect to terminate this Lease, in which event Landlord shall be relieved of its obligation to make such repairs or restoration and this Lease shall terminate as of the date that is 75 days after the later of: (i) discovery of such damage or destruction, or (ii) the date all required Hazardous Materials Clearances are obtained, but Landlord shall retain any Rent paid and the right to any Rent payable by Tenant prior to such election by Landlord or Tenant. Notwithstanding the foregoing, either Landlord or Tenant may terminate this Lease if the Premises are damaged during the last 1 year of the Term and Landlord reasonably estimates that it will take more than 2 months to repair such damage, or if insurance proceeds are not available to Landlord for such restoration.

(b) In the event of a Casualty to the Premises, subject to Landlord's restoration obligations under Section 18(a) hereof, Tenant, at its expense, shall promptly perform, subject to delays arising from the collection of insurance proceeds, from Force Majeure (as defined in Section 34) events or to obtain Hazardous Materials Clearances, all repairs or restoration not required to be done by Landlord and shall promptly re-enter the Premises and commence doing business in accordance with this Lease.

(c) In the event of a Casualty to the Premises, Rent shall be abated from the later of (i) the date all required Hazardous Material Clearances, if any, are obtained, or (ii) the date of such Casualty, until the Premises are repaired and restored, in the proportion which the area of the Premises, if any, which is not usable by Tenant bears to the total area of the Premises, unless Landlord provides Tenant with other space during the period of repair that is suitable for the temporary conduct of Tenant's business. Such abatement shall be the sole remedy of Tenant, and except as provided in this Section 18, Tenant waives any right to terminate the Lease by reason of damage or casualty loss.

(d) The provisions of this Lease, including this Section 18, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, or any other portion of the Project, and any statute or regulation which is now or may hereafter be in effect shall have no application to this Lease or any damage or destruction to all or any part of the Premises or any other portion of the Project, the parties hereto expressly agreeing that this Section 18 sets forth their entire understanding and agreement with respect to such matters.

19. **Condemnation**. If the whole or any material part of the Premises or the Project is taken for any public or quasi-public use under governmental law, ordinance, or regulation, or by right of eminent domain, or by private purchase in lieu thereof (a "**Taking**" or "**Taken**"), and the Taking would (i) in Landlord's reasonable judgment materially interfere with or impair Landlord's ownership or operation of the Project, or (ii) in the reasonable judgment of Landlord and Tenant either prevent or materially interfere with Tenant's use of the Premises (as resolved, if the parties are unable to agree, by arbitration by a single arbitrator with the qualifications and experience appropriate to resolve the matter and appointed pursuant to and acting in accordance with the rules of the American Arbitration Association), then upon written notice by Landlord or Tenant, as applicable, this Lease shall terminate and Rent shall be apportioned as of said date. If part of the Premises shall be Taken, and this Lease is not terminated as provided above, Landlord shall promptly restore the Premises and the Project as nearly as is commercially reasonable under the circumstances to their condition prior to such partial Taking and the rentable square footage of the Building, the rentable square footage of the Premises, Tenant's Share of Operating Expenses and the Rent payable hereunder during the unexpired Term shall be reduced to such extent as may be fair and reasonable under the circumstances. Upon any such Taking, Landlord shall be entitled to receive the entire price or award from any such Taking without any payment to Tenant, and Tenant hereby assigns to Landlord Tenant's interest, if any, in such award. Tenant shall have the right, to the extent that same shall not diminish Landlord's award, to make a separate claim against the condemning authority (but not Landlord) for such compensation as may be separately awarded or recoverable by Tenant for moving expenses and damage to Tenant's trade fixtures, if a separate award for such items is made to Tenant. Tenant hereby waives any and all rights it might otherwise have pursuant to any provision of state law to terminate this Lease upon a partial Taking of the Premises or the Project. This Section 19 shall govern Landlord's and Tenant's rights to terminate this Lease upon any Taking of the Premises or the Project.

20. **Events of Default**. Each of the following events shall be a default ("**Default**") by Tenant under this Lease:

(a) **Payment Defaults**. Tenant shall fail to pay any installment of Rent or any other payment hereunder when due.

(b) **Insurance**. Any insurance required to be maintained by Tenant pursuant to this Lease shall be canceled or terminated or shall expire or shall be reduced or materially changed, or Landlord shall receive a notice of nonrenewal of any such insurance and Tenant shall fail to obtain replacement insurance and to provide satisfactory evidence to Landlord thereof before the expiration of the current coverage.

(c) **Abandonment**. Tenant shall abandon the Premises.

(d) **Improper Transfer**. Tenant shall assign, sublease or otherwise transfer or attempt to transfer all or any portion of Tenant's interest in this Lease or the Premises except as expressly permitted herein, or Tenant's interest in this Lease shall be attached, executed upon, or otherwise judicially seized and such action is not released within 90 days of the action.

(e) **Liens**. Tenant shall fail to discharge or otherwise obtain the release of any lien placed upon the Premises in violation of this Lease within 20 days after any such lien is filed against the Premises.

(f) **Insolvency Events**. Tenant or any guarantor or surety of Tenant's obligations hereunder shall: (i) make a general assignment for the benefit of creditors; (ii) commence any case, proceeding or other action seeking to have an order for relief entered on its behalf as a debtor or to adjudicate it a bankrupt or insolvent, or seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of it or its debts or seeking appointment of a receiver, trustee, custodian or other similar official for it or for all or of any substantial part of its property (collectively a "**Proceeding for Relief**"); (iii) become the subject of any Proceeding for Relief which is not dismissed within 90 days of its filing or entry; or (iv) be dissolved or otherwise fail to maintain its legal existence.

(g) **Estoppel Certificate or Subordination Agreement**. Tenant fails to execute any document required from Tenant under Sections 23 or 27 within 5 days after a second notice requesting such document.

(h) **Other Defaults**. Tenant shall fail to comply with any provision of this Lease other than those specifically referred to in this Section 20, and, except as otherwise expressly provided herein, such failure shall continue for a period of 20 days after written notice thereof from Landlord to Tenant. Any notice given under this Section 20(h) shall: (i) specify the alleged default, (ii) demand that Tenant cure such default, (iii) be in lieu of, and not in addition to, or shall be deemed to be, any notice required under any provision of applicable law, and (iv) not be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice; provided that if the nature of Tenant's default pursuant to Section 20(h) is such that it cannot be cured by the payment of money and reasonably requires more than 20 days to cure, then Tenant shall not be deemed to be in default if Tenant commences such cure within said 20 day period and thereafter diligently prosecutes the same to completion; provided, however, that if Tenant has not cured the default within 45 days from the date of Landlord's notice, Tenant shall deliver a written status report to Landlord every week thereafter until Tenant's default has been cured detailing Tenant's continuing efforts to cure the default. Tenant's failure to deliver such status report(s) to Landlord as provided for in the preceding sentence shall constitute a default under this Lease.

21. **Landlord's Remedies**.

(a) **Payment by Landlord; Interest**. Upon a Default by Tenant hereunder, Landlord may, without waiving or releasing any obligation of Tenant hereunder, make such payment or perform such act. All sums so paid or incurred by Landlord, together with interest thereon, from the date such sums were paid or incurred, at the annual rats equal to 12% per annum or the highest rate permitted by law (the "**Default Rate**"), whichever is less, shall be payable to Landlord on demand as Additional Rent. Nothing herein shall be construed to create or impose a duty on Landlord to mitigate any damages resulting from Tenant's Default hereunder.

(b) **Late Payment Rent**. Late payment by Tenant to Landlord of Rent and other sums due will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult and impracticable to ascertain. Such costs include, but are not limited to, processing and accounting charges and late charges which may be imposed on Landlord under any Mortgage covering the Premises. Therefore, if any installment of Rent due from Tenant is not received by Landlord within 5 business days after the date such payment is due, Tenant shall pay to Landlord an additional sum equal to 6% of the overdue Rent as a late charge. The parties agree that this late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of late payment by Tenant. In addition to the late charge, Rent not paid when due shall bear interest at the Default Rate from the 5th day after the date due until paid.

(c) **Remedies**. Upon the occurrence of a Default, Landlord, at its option, without further notice or demand to Tenant, shall have in addition to all other rights and remedies provided in this Lease, at law or in equity, the option to pursue any one or more of the following remedies, each and all of which shall be cumulative and nonexclusive, without any notice or demand whatsoever.

(i) Terminate this Lease, or at Landlord's option, Tenant's right to possession only, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, enter upon and take possession of the Premises and expel or remove Tenant and any other person who may be occupying the Premises or any part thereof, without being liable for prosecution or any claim or damages therefor;

(ii) Upon any termination of this Lease, whether pursuant to the foregoing Section 21(c)(i) or otherwise, Landlord may recover from Tenant the following:

(A) The worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus

(B) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(C) The worth at the time of award of the amount by which the unpaid rent for the balance of the Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(D) Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including, but not limited to, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; and

(E) At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

(iii) Landlord may continue this Lease in effect after Tenant's Default and recover rent as it becomes due (Landlord and Tenant hereby agreeing that Tenant has the right to sublet or assign hereunder, subject only to reasonable limitations). Accordingly, if Landlord does not elect to terminate this Lease following a Default by Tenant, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies hereunder, including the right to recover all Rent as it becomes due.

(iv) Whether or not Landlord elects to terminate this Lease following a Default by Tenant, Landlord shall have the right to terminate any and all subleases, licenses, concessions or other consensual arrangements for possession entered into by Tenant and affecting the Premises or may, in Landlord's sole discretion, succeed to Tenant's interest in such subleases, licenses, concessions or arrangements. Upon Landlord's election to succeed to Tenant's interest in any such subleases, licenses, concessions or arrangements, Tenant shall, as of the date of notice by Landlord of such election, have no further right to or interest in the rent or other consideration receivable thereunder.

(v) Independent of the exercise of any other remedy of Landlord hereunder or under applicable law, Landlord may conduct an environmental test of the Premises as generally described in Section 30(d) hereof, at Tenant's expense.

(vi) The term "**rent**" as used in this Section 21 shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others. As used in Sections 21(c)(ii) (A) and (B), above, the "**worth at the time of award**" shall be computed by allowing interest at the Default Rate. As used in Section 21(c)(ii)(C) above, the "**worth at the time of award**" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus 1%.

(d) **Effect of Exercise**. Exercise by Landlord of any remedies hereunder or otherwise available shall not be deemed to be an acceptance of surrender of the Premises and/or a termination of this Lease by Landlord, it being understood that such surrender and/or termination can be effected only by the express written agreement of Landlord and Tenant. Any law, usage, or custom to the contrary notwithstanding, Landlord shall have the right at all times to enforce the provisions of this Lease in strict accordance with the terms hereof; and the failure of Landlord at any time to enforce Its rights under this Lease strictly in accordance with same shall not be construed as having created a custom in any way or manner contrary to the specific terms, provisions, and covenants of this Lease or as having modified the same and shall not be deemed a waiver of Landlord's right to enforce one or more of its rights in connection with any subsequent default. A receipt by Landlord of Rent or other payment with knowledge of the breach of any covenant hereof shall not be deemed a waiver of such breach, and no waiver by Landlord of any provision of this Lease shall be deemed to have been made unless expressed in writing and signed by Landlord. To the greatest extent permitted by law, Tenant waives the service of notice of Landlord's intention to re-enter, re-take or otherwise obtain possession of the Premises as provided in any statute, or to institute legal proceedings to that end, and also waives all right of redemption in case Tenant shall be dispossessed by a judgment or by warrant of any court or judge. Any reletting of the Premises or any portion thereof shall be on such terms and conditions as Landlord in its sole discretion may determine Landlord shall not be liable for, nor shall Tenant's obligations hereunder be diminished because of, Landlord's failure to relet the Premises or collect rent due in respect of such reletting or otherwise to mitigate any damages arising by reason of Tenant's Default.

22. **Assignment and Subletting**.

(a) **General Prohibition**. Without Landlord's prior written consent subject to and on the conditions described in this Section 22, Tenant shall not, directly or indirectly, voluntarily or by operation of law, assign this Lease or sublease the Premises or any part thereof or mortgage, pledge, or hypothecate its leasehold interest or grant any concession or license within the Premises, and any attempt to do any of the foregoing shall be void and of no effect. If Tenant is a corporation, partnership or limited liability company, the shares or other ownership interests thereof which are not actively traded upon a stock exchange or in the over-the-counter market, a transfer or series of transfers whereby 49% or more of the issued and outstanding shares or other ownership interests of such corporation are, or voting control is, transferred (but excepting transfers upon deaths of individual owners) from a person or persons or entity or entities which were owners thereof at time of execution of this Lease to persons or entities who were not owners of shares or other ownership interests of the corporation, partnership or limited liability company at time of execution of this Lease, shall be deemed an assignment of this Lease requiring the consent of Landlord as provided in this Section 22.

(b) **Permitted Transfers**. If Tenant desires to assign, sublease, hypothecate or otherwise transfer this Lease or sublet the Premises other than pursuant to a Permitted Assignment (as defined below), then at least 15 business days, but not more than 45 business days, before the date Tenant desires the assignment or sublease to be effective (the "**Assignment Date**"), Tenant shall give Landlord a notice (the "**Assignment Notice**") containing such information about the proposed assignee or sublessee, including the proposed use of the Premises and any Hazardous Materials proposed to be used, stored handled, treated, generated in or released or disposed of from the Premises, the Assignment Date, any relationship between Tenant and the proposed assignee or sublessee, and all material terms and conditions of the proposed assignment or sublease, including a copy of any proposed assignment or sublease in its final form, and such other information as Landlord may deem reasonably necessary or appropriate to its consideration whether to grant its consent. Landlord may, by giving written notice to Tenant within 15 business days after receipt of the Assignment Notice: (i) grant such consent, (ii) refuse such consent, in its sole and absolute discretion, if the proposed assignment, hypothecation or other transfer or subletting concerns more than (together with all other then effective subleases) 50% of the Premises, (iii) refuse such consent, in its reasonable discretion, if the proposed subletting concerns (together with all other then effective subleases) 50% or less of the Premises (provided that Landlord shall further have the right to review and approve or disapprove the proposed form of sublease prior to the effective date of any such subletting), or (iv) terminate this Lease with respect to the space described in the Assignment Notice as of the Assignment Date (an "**Assignment Termination**"). If Landlord delivers notice of its election to exercise an Assignment Termination, Tenant shall have the right to withdraw such Assignment Notice by written notice to Landlord of such election within 10 business days after Landlord's notice electing to exercise the Assignment Termination. If Tenant withdraws such Assignment Notice, this Lease shall continue in full force and effect. If Tenant does not withdraw such Assignment Notice, this Lease, and the term and estate herein granted, shall terminate as of the Assignment Date with respect to the space described in such Assignment Notice. No failure of Landlord to exercise any such option to terminate this Lease, or to deliver a timely notice in response to the Assignment Notice, shall be deemed to be Landlord's consent to the proposed assignment, sublease or other transfer. Tenant shall reimburse Landlord for all of Landlord's reasonable out-of-pocket expenses in connection with its consideration of any Assignment Notice. Notwithstanding the foregoing, Landlord consent to an assignment of this Lease or a subletting of any portion of the Premises to any entity controlling, controlled by or under common control with Tenant (a "**Control Permitted Assignment**") shall not be required, provided that Landlord shall have the right to approve the form of any such sublease or assignment. In addition, Tenant shall have the right to assign this Lease, upon 30 days prior written notice to Landlord but without obtaining Landlord's prior written consent, to a corporation or other entity which is a successor-in-interest to Tenant, by way of merger, consolidation or corporate reorganization, or by the purchase of all or substantially all of the assets or the ownership interests of Tenant provided that (i) such merger or consolidation, or such acquisition or assumption, as the case may be, is for a good business purpose and not principally for the purpose of transferring the Lease, and (ii) the net worth (as determined in accordance with generally accepted accounting principles ("**GAAP**")) of the assignee is not less than the net worth (as determined in accordance with GAAP) of Tenant as of the date of Tenant's most current quarterly or annual financial statements, and (iii) such assignee shall agree in writing to assume all of the terms, covenants and conditions of this Lease arising after the effective date of the assignment (a "**Corporate Permitted Assignment**"). Control Permitted Assignments and Corporate Permitted Assignments are hereinafter referred to as "**Permitted Assignments**."

(c) **Additional Conditions**. As a condition to any such assignment or subletting, whether or not Landlord's consent is required, Landlord may require:

(i) That any assignee or subtenant agree, in writing at the time of such assignment or subletting, that if Landlord gives such party notice that Tenant is in default under this Lease, such party shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments will be received by Landlord without any liability except to credit such payment against those due under the Lease, and any such third party shall agree to attorn to Landlord or its successors and assigns should this Lease be terminated for any reason; provided, however, in no event shall Landlord or its successors or assigns be obligated to accept such attornment; and

(ii) A list of Hazardous Materials, certified by the proposed assignee or sublessee to be true and correct, which the proposed assignee or sublessee intends to use, store, handle, treat, generate in or release or dispose of from the Premises, together with copies of all documents relating to such use storage, handling, treatment, generation, release or disposal of Hazardous Materials by the proposed assignee or subtenant in the Premises or on the Project, prior to the proposed assignment or subletting, including, without limitation: permits; approvals; reports and correspondence; storage and management plans; plans relating to the installation of any storage tanks to be installed in or under the Project (provided, said installation of tanks shall only be permitted after Landlord has given its written consent to do so, which consent may be withheld in Landlords sole and absolute discretion); and all closure plans or any other documents required by any and all federal, state and local Governmental Authorities for any storage tanks installed in, on or under the Project for the closure of any such tanks. Neither Tenant nor any such proposed assignee or subtenant is required, however, to provide Landlord with any portion(s) of the such documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities.

(d) **No Release of Tenant, Sharing of Excess Rents**. Notwithstanding any assignment or subletting, Tenant and any guarantor or surety of Tenant's obligations under this Lease shall at all times remain fully and primarily responsible and liable for the payment of Rent and for compliance with all of Tenant's other obligations under this Lease. If the Rent due and payable by a sublessee or assignee (or a combination of the rental payable under such sublease or assignment plus any bonus or other consideration therefor or Incident thereto in any form) exceeds the sum of the rental payable under this Lease, (excluding however, any Rent payable under this Section) and actual and reasonable brokerage fees, legal costs and any design or construction fees directly related to and required pursuant to the terms of any such sublease ("**Excess Rent**"), then Tenant shall be bound and obligated to pay Landlord as Additional Rent hereunder 50% of such Excess Rent within 10 days following receipt thereof by Tenant. If Tenant shall sublet the Premises or any part thereof, Tenant hereby immediately and irrevocably assigns to Landlord, as security for Tenant's obligations under this Lease, all rent from any such subletting, and Landlord as assignee and as attorney-in-fact for Tenant, or a receiver for Tenant appointed on Landlord's application, may collect such rent and apply it toward Tenant's obligations under this Lease; except that, until the occurrence of a Default, Tenant shall have the right to collect such rent.

(e) **No Waiver**. The consent by Landlord to an assignment or subletting shall not relieve Tenant or any assignees of this Lease or any sublessees of the Premises from obtaining the consent of Landlord to any further assignment or subletting nor shall it release Tenant or any assignee or sublessee of Tenant from full and primary liability under the Lease. The acceptance of Rent hereunder, or the acceptance of performance of any other term, covenant, or condition thereof, from any other person or entity shall not be deemed to be a waiver of any of the provisions of this Lease or a consent to any subletting, assignment or other transfer of the Premises.

(f) **Prior Conduct of Proposed Transferee**. Notwithstanding any other provision of this Section 22, if (i) the proposed assignee or sublessee of Tenant has been required by any prior landlord, lender or Governmental Authority to take remedial action in connection with Hazardous Materials contaminating a property, where the contamination resulted from such party's action or use of the property in question, (ii) the proposed assignee or sublessee is subject to an enforcement order issued by any Governmental Authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any Governmental Authority), or (iii) because of the existence of a pre-existing environmental condition in the vicinity of or underlying the Project, the risk that Landlord would be targeted as a responsible party in connection with the remediation of such pre-existing environmental condition would be materially increased or exacerbated by the proposed use of Hazardous Materials by such proposed assignee or sublessee, Landlord shall have the absolute right to refuse to consent to any assignment or subletting to any such party.

23. **Estoppel Certificate**. Tenant shall, within 10 business days of written notice from Landlord, execute, acknowledge and deliver a statement in writing in any form reasonably requested by a proposed lender or purchaser, (i) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease as so modified is in full force and effect) and the dates to which the rental and other charges are paid In advance, if any, (ii) acknowledging that there are not any uncured defaults on the part of Landlord hereunder, or specifying such defaults if any are claimed, and (iii) setting forth such further information with respect to the status of this Lease or the Premises as may be reasonably requested thereon. Any such statement may be relied upon by any prospective purchaser or encumbrancer of all or any portion of the real property of which the Premises are a part. Tenant's failure to deliver such statement within such time shall, at the option of Landlord, constitute a Default under this Lease, and, in any event, shall be conclusive upon Tenant that the Lease is in full force and effect and without modification except as may be represented by Landlord in any certificate prepared by Landlord and delivered to Tenant for execution.

24. **Quiet Enjoyment**. So long as Tenant shall perform all of the covenants and agreements herein required to be performed by Tenant, Tenant shall, subject to the terms of this Lease, at ail times during the Term, have peaceful and quiet enjoyment of the Premises against any person claiming by, through or under Landlord.

25. **Prorations**. All prorations required or permitted to be made hereunder shall be made on the basis of a 360 day year and 30 day months.

26. **Rules and Regulations**. Tenant shall, at all times during the Term and any extension thereof, comply with all reasonable rules and regulations at any time or from time to time established by Landlord covering use of the Premises and the Project. The current rules and regulations are attached hereto as **Exhibit E**. If there is any conflict between said rules and regulations and the provisions of this Lease, the terms and provisions of this Lease shall control. Landlord shall not have any liability or obligation for the breach of any rules or regulations by other tenants in the Project and shall not enforce such rules and regulations in a discriminatory manner.

27. **Subordination**. This Lease and Tenant's interest and rights hereunder are hereby made and shall be subject and subordinate at all times to the lien of any Mortgage now existing or hereafter created on or against the Project or the Premises, and all amendments, restatements, renewals, modifications, consolidations, refinancing, assignments and extensions thereof, without the necessity of any further instrument or act on the part of Tenant; provided, however that so long as there is no Default hereunder, Tenant's right to possession of the Premises shall not be disturbed by the Holder of any such Mortgage. Tenant agrees, at the election of the Holder of any such Mortgage, to attorn to any such Holder. Tenant agrees upon demand to execute, acknowledge and deliver such instruments, confirming such subordination, and such instruments of attornment as shall be reasonably requested by any such Holder, provided any such instruments contain appropriate non-disturbance provisions assuring Tenant's quiet enjoyment of the Premises as set forth in Section 24 hereof. If Tenant fails to execute, acknowledge and deliver any such instrument within a reasonable time after requested by Landlord, Tenant hereby appoints Landlord attorney-in-fact for Tenant irrevocably (such power of attorney being coupled with an interest) to execute, acknowledge and deliver any such instrument and instruments for and in the name of Tenant and to cause any such Instrument to be recorded. Notwithstanding the foregoing, any such Holder may at any time subordinate its Mortgage to this Lease, without Tenant's consent, by notice in writing to Tenant, and thereupon this Lease shall be deemed prior to such Mortgage without regard to their respective dates of execution, delivery or recording and in that event such Holder shall have the same rights with respect to this Lease as though this Lease had been executed prior to the execution, delivery and recording of such Mortgage and had been assigned to such Holder. The term "**Mortgage**" whenever used in this Lease shall be deemed to include deeds of trust, security assignments and any other encumbrances, and any reference to the "**Holder**" of a Mortgage shall be deemed to include the beneficiary under a deed of trust.

28. **Surrender**.

(a) Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord in the same condition as received, subject to any Alterations or Installations permitted by Landlord to remain in the Premises, free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than a Landlord Party (collectively, "**Tenant HazMat Operations**") and released of all Hazardous Materials Clearances, broom clean, ordinary wear and tear and casualty loss and condemnation covered by Sections 18 and 19 excepted. At least 3 months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any Governmental Authority) to be taken by Tenant in order to surrender the Premises (including any Installations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from the Tenant HazMat Operations and otherwise released for unrestricted use and occupancy (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises, and shall be subject to the review and approval of Landlord's environmental consultant. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant HazMat Operations as Landlord shall request. On or before such surrender, Tenant shall deliver to Landlord evidence that the approved Surrender Plan shall have been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of the Lease, free from any residual impact from Tenant HazMat Operations. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of pocket expense incurred by Landlord for Landlord's environmental consultant to review and approve the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed $5,000. Landlord shall have the unrestricted right to deliver such Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties

(b) If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any residual effect of Tenant HazMat Operations in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may deem reasonable or appropriate to assure that the Premises and the Project are surrendered free from any residual impact from Tenant HazMat Operations, the cost of which actions shall be reimbursed by Tenant as Additional Rent, without regard to the limitation set forth in Section 28(a).

(c) Tenant shall immediately return to Landlord all keys and/or access cards to parking, the Project, restrooms or all or any portion of the Premises furnished to or otherwise procured by Tenant. If any such access card or key is lost, Tenant shall pay to Landlord, at Landlord's election, either the cost of replacing such lost access card or key or the cost of reprogramming the access security system in which such access card was used or changing the lock or locks opened by such lost key. Any Tenant's Property, Alterations and property not so removed by Tenant as permitted or required herein shall be deemed abandoned and may be stored, removed, and disposed of by Landlord at Tenant's expense, and Tenant waives all claims against Landlord for any damages resulting from Landlord's retention and/or disposition of such property. All obligations of Tenant hereunder not fully performed as of the termination of the Term, including the obligations of Tenant under Section 30 hereof, shall survive the expiration or earlier termination of the Term, including, without limitation, indemnity obligations, payment obligations with respect to Rent and obligations concerning the condition and repair of the Premises.

29. **Waiver of Jury Trial**. TO THE EXTENT PERMITTED BY LAW, TENANT AND LANDLORD WAIVE ANY RIGHT TO TRIAL BY JURY OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, BETWEEN LANDLORD AND TENANT ARISING OUT OF THIS LEASE OR ANY OTHER INSTRUMENT, DOCUMENT, OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HEREWITH OR THE TRANSACTIONS RELATED HERETO.

30. **Environmental Requirements**.

(a) **Prohibition/Compliance/Indemnity**. Tenant shall not cause or permit any Hazardous Materials (as hereinafter defined) to be brought upon, kept, used, stored, handled, treated, generated in or about, or released or disposed of from, the Premises or the Project in violation of applicable Environmental Requirements (as hereinafter defined) by Tenant or any Tenant Party. If Tenant breaches the obligation stated in the preceding sentence, or if the presence of Hazardous Materials in the Premises during the Term or any holding over results in contamination of the Premises, the Project or any adjacent property or if contamination of the Premises, the Project or any adjacent property by Hazardous Materials brought Into, kept, used, stored, handled, treated, generated in or about, or released or disposed of from, the Premises by anyone other than Landlord and Landlord's employees, agents and contractors otherwise occurs during the Term or any holding over, Tenant hereby indemnifies and shall defend and hold Landlord, its officers, directors, employees, agents and contractors harmless from any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises or the Project, or the loss of, or restriction on, use of the Premises or any portion of the Project), expenses (including, without limitation, attorneys', consultants' and experts' fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses (collectively, "**Environmental Claims**") which arise during or after the Term as a result of such contamination. This indemnification of Landlord by Tenant includes, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, treatment, remedial, removal, or restoration work required by any federal, state or local Governmental Authority because of Hazardous Materials present in the air, soil or ground water above, on, or under the Premises. Without limiting the foregoing, if the presence of any Hazardous Materials on the Premises, the Project or any adjacent property caused or permitted by Tenant or any Tenant Party results in any contamination of the Premises, the Project or any adjacent property, Tenant shall promptly take all actions at its sole expense and in accordance with applicable Environmental Requirements as are necessary to return the Premises, the Project or any adjacent property to the condition existing prior to the time of such contamination, provided that Landlord's approval of such action shall first be obtained, which approval shall not unreasonably be Withheld so long as such actions would not potentially have any material adverse long-term or short-term effect on the Premises or the Project.

(b) **Business**. Landlord acknowledges that it is not the intent of this Section 30 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to prudent industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Requirements. As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord prior to the Commencement Date a list identifying each type of Hazardous Materials to be brought upon, kept, used, stored, handled, treated, generated on, or released or disposed of from, the Premises and setting forth any and all governmental approvals or permits required in connection with the presence, use, storage, handling, treatment, generation, release or disposal of such Hazardous Materials on or from the Premises ("**Hazardous Materials List**"). Tenant shall deliver to Landlord an updated Hazardous Materials List at least once a year and shall also deliver an updated list before any Hazardous Material not previously listed on Tenant's Hazardous Materials List is brought onto, kept, used, stored, handled, treated, generated on, or released or disposed of from, the Premises. Tenant shall deliver to Landlord true and correct copies of the following documents (the "**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials prior to the Commencement Date, or if unavailable at that time, concurrent with the receipt from or submission to a Governmental Authority: permits; approvals; reports and correspondence; storage and management plans, notice of violations of any Legal Requirements; plans relating to the installation of any storage tanks to be installed in or under the Project (provided, said installation of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); all closure plans or any other documents required by any and all federal, state and local Governmental Authorities for any storage tanks installed in, on or under the Project for the closure of any such tanks; and a Surrender Plan (to the extent surrender in accordance with Section 28 cannot be accomplished in 3 months). Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information which could be detrimental to Tenant's business should such information become possessed by Tenant's competitors.

(c) **Tenant Representation and Warranty**. Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or Governmental Authority at any time to take remedial action in connection with Hazardous Materials contaminating a property which contamination was permitted by Tenant of such predecessor or resulted from Tenant's or such predecessor's action or use of the property in question, and (ii) Tenant is not subject to any enforcement order issued by any Governmental Authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any Governmental Authority). If Landlord determines that this representation and warranty was not true as of the date of this Lease, Landlord shall have the right to terminate this Lease in Landlord's sole and absolute discretion.

(d) **Testing**. Landlord shall have the right to conduct annual tests of the Premises to determine whether any contamination of the Premises or the Project has occurred as a result of Tenant's use. Tenant shall be required to pay the cost of such annual test of the Premises; provided, however, that if Tenant conducts its own tests of the Premises using third party contractors and test procedures acceptable to Landlord which tests are certified to Landlord, Landlord shall accept such tests in lieu of the annual tests to be paid for by Tenant. In addition, at any time, and from time to time, prior to the expiration or earlier termination of the Term, Landlord shall have the right to conduct appropriate tests of the Premises and the Project to determine if contamination has occurred as a result of Tenant's use of the Premises. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use of Hazardous Materials in or about the Premises by Tenant or any Tenant Party. If contamination has occurred for which Tenant is liable under this Section 30, Tenant shall pay all costs to conduct such tests. If no such contamination is found, Landlord shall pay the costs of such tests (which shall not constitute an Operating Expense). Landlord shall provide Tenant with a copy of all third party, non-confidential reports and tests of the Premises made by or on behalf of Landlord during the Term without representation or warranty and subject to a confidentiality agreement. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any environmental conditions identified by such testing for which Tenant is responsible under this Lease in accordance with all Environmental Requirements. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights which Landlord may have against Tenant.

(e) **Underground Tanks**. If underground or other storage tanks storing Hazardous Materials located on the Premises or the Project are used by Tenant or are hereafter placed on the Premises or the Project by Tenant, Tenant shall install, use, monitor, operate, maintain, upgrade and manage such storage tanks, maintain appropriate records, obtain and maintain appropriate insurance, implement reporting procedures, properly close any underground storage tanks, and take or cause to be taken all other actions necessary or required under applicable state and federal Legal Requirements, as such now exists or may hereafter be adopted or amended in connection with the installation, use, maintenance, management, operation, upgrading and closure of such storage tanks.

(f) **Tenant's Obligations**. Tenant's obligations under this Section 30 shall survive the expiration or earlier termination of the Lease. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender Plan), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole discretion, which Rent shall be prorated daily.

(g) **Definitions**. As used herein, the term "**Environmental Requirements**" means all applicable present and future statutes, regulations, ordinances, rules, codes, judgments, orders or other similar enactments of any Governmental Authority regulating or relating to health, safety, or environmental conditions on, under, or about the Premises or the Project, or the environment, including without limitation, the following: the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; and all state and local counterparts thereto, and any regulations or policies promulgated or issued thereunder. As used herein, the term "**Hazardous Materials**" means and includes any substance, material, waste, pollutant, or contaminant listed or defined as hazardous or toxic, or regulated by reason of its impact or potential impact on humans, animals and/or the environment under any Environmental Requirements, asbestos and petroleum, including crude oil or any fraction thereof, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). As defined in Environmental Requirements, Tenant is and shall be deemed to be the "**operator**" of Tenant's "**facility**" and the "**owner**" of all Hazardous Materials brought on the Premises by Tenant or any Tenant Party, and the wastes, by-products, or residues generated, resulting, or produced therefrom.

31. **Tenant's Remedies/Limitation of Liability**.

(a) Landlord shall not be in default hereunder unless Landlord fails to perform any of its obligations hereunder within 30 days after written notice from Tenant specifying such failure (unless such performance will, due to the nature of the obligation, require a period of time In excess of 30 days, then after such period of time as is reasonably necessary). Upon any default by Landlord, Tenant shall give notice by registered or certified mail to any Holder of a Mortgage covering the Premises and to any landlord of any lease of property in or on which the Premises are located and Tenant shall offer such Holder and/or landlord a reasonable opportunity to cure the default, including time to obtain possession of the Project by power of sale or a judicial action if such should prove necessary to effect a cure; provided Landlord shall have furnished to Tenant in writing the names and addresses of all such persons who are to receive such notices. All obligations of Landlord hereunder shall be construed as covenants, not conditions; and, except as may be otherwise expressly provided in this Lease, Tenant may not terminate this Lease for breach of Landlord's obligations hereunder.

(b) Notwithstanding the foregoing, if any claimed Landlord default hereunder will immediately, materially and adversely affect Tenant's ability to conduct its business in the Premises (a "**Material Landlord Default**") or there is an emergency within the Premises which poses an immediate threat of damage to property or injury to person (an "**Emergency Situation**"), Tenant shall, as soon as reasonably possible give Landlord written notice of such claim and telephonic notice to Tenant's principal contact with Landlord. If (x) any claimed Material Landlord Default is not a default by Landlord hereunder, (y) any Emergency Situation is not a matter which Landlord is responsible for under this Lease or (z) if Tenant failed to give Landlord notice promptly after learning of the conditions giving rise to the claimed Material Landlord Default or claimed Emergency Situation, Landlord shall be entitled to recover from Tenant, as Additional Rent, any costs incurred by Landlord in connection with such cure in excess of the costs, if any, that Landlord would otherwise have been liable to pay hereunder. If (i) Landlord fails to commence cure of any claimed Material Landlord Default within 2 business days after notice thereof and diligently pursue the same until completion, or (ii) Tenant has notified or attempted to notify Landlord of the Emergency Situation and Landlord fails to commence cure of the same in a timely manner in light of the nature of the particular Emergency Situation, Tenant may commence and prosecute such cure to completion (so long as the prosecution of such cure affects only matters within the Premises and does not affect any portion of the Project outside the Premises including, without limitation, any Building Systems serving the Common Areas or any other tenant at the Project), and shall be entitled to promptly recover the costs of such cure (but not any consequential or other damages) from Landlord, to the extent of Landlord's obligation to cure such claimed Material Landlord Default or Emergency Situation, subject to the limitations set forth in this paragraph and the other provisions of this Lease.

(c) All obligations of Landlord under this Lease will be binding upon Landlord only during the period of its ownership of the Premises and not thereafter. The term "**Landlord**" in this Lease shall mean only the owner for the time being of the Premises. Upon the transfer by such owner of its interest in the Premises, such owner shall thereupon be released and discharged from all obligations of Landlord thereafter accruing, but such obligations shall be binding during the Term upon each new owner for the duration of such owner's ownership.

32. **Inspection and Access**. Landlord and its agents, representatives, and contractors may enter the Premises at any reasonable time to inspect the Premises and to make such repairs as may be required or permitted pursuant to this Lease and for any other business purpose. Landlord and Landlord's representatives may enter the Premises during business hours on not less than 48 hours advance written notice (except in the case of emergencies in which case no such notice shall be required and such entry may be at any time) for the purpose of effecting any such repairs, inspecting the Premises, showing the Premises to prospective purchasers and, during the last year of the Term, to prospective tenants or for any other business purpose. Notwithstanding the foregoing, prospective purchasers and prospective tenants may be excluded by Tenant from those portions of the Premises designated by Tenant to Landlord as being restricted areas ("**Restricted Areas**") unless such parties comply with Tenant's written protocols with respect to such Restricted Areas and Tenant is present during any entries by such parties into Restricted Areas. Landlord may erect a suitable sign on the Premises stating the Premises are available to let or that the Project is available for sale. Landlord may grant easements, make public dedications, designate Common Areas and create restrictions on or about the Premises, provided that no such easement, dedication, designation or restriction materially, adversely affects Tenant's use or occupancy of the Premises for the Permitted Use. At Landlord's request, Tenant shall execute such instruments as may be necessary for such easements, dedications or restrictions. Tenant shall at all times, except in the case of emergencies, have the right to escort Landlord or its agents, representatives, contractors or guests while the same are in the Premises, provided such escort does not materially and adversely affect Landlord's access rights hereunder. Landlord shall use reasonable efforts to comply with Tenant's written protocol with respect to entering Restricted Areas; provided, however, that a copy of the same has previously been provided to Landlord or the same is clearly posted outside of such Restricted Areas.

33. **Security**. Tenant acknowledges and agrees that security devices and services, if any, while Intended to deter crime may not in given instances prevent theft or other criminal acts and that Landlord is not providing any security services with respect to the Premises. Tenant agrees that Landlord shall not be liable to Tenant for, and Tenant waives any claim against Landlord with respect to, any loss by theft or any other damage suffered or Incurred by Tenant in connection with any unauthorized entry into the Premises or any other breach of security with respect to the Premises. Tenant shall be solely responsible for the personal safety of Tenant's officers, employees, agents, contractors, guests and invitees while any such person is in, on or about the Premises and/or the Project. Tenant shall at Tenant's cost obtain insurance coverage to the extent Tenant desires protection against such criminal acts.

34. **Force Majeure**. Landlord shall not responsible or liable for delays in the performance of its obligations hereunder when caused by, related to, or arising out of acts of God, strikes, lockouts, or other labor disputes, embargoes, quarantines, weather, national, regional, or local disasters, calamities, or catastrophes, inability to obtain labor or materials (or reasonable substitutes therefor) at reasonable costs or failure of, or inability to obtain, utilities necessary for performance, governmental restrictions, orders, limitations, regulations, or controls, national emergencies, delay in issuance or revocation of permits, enemy or hostile governmental action, terrorism, insurrection, riots, civil disturbance or commotion, fire or other casualty, and other causes or events beyond the reasonable control of Landlord ("**Force Majeure**").

35. **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this transaction and that no Broker brought about this transaction, other than The Staubach Company (which represents Tenant) and GVA Kidder Mathews (which represents Landlord). Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this Section 35, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.

36. **Limitation on Landlord's Liability**. NOTWITHSTANDING ANYTHING SET FORTH HEREIN OR IN ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT TO THE CONTRARY: (A) LANDLORD SHALL NOT BE LIABLE TO TENANT OR ANY OTHER PERSON FOR (AND TENANT AND EACH SUCH OTHER PERSON ASSUME ALL RISK OF) LOSS, DAMAGE OR INJURY, WHETHER ACTUAL OR CONSEQUENTIAL TO: TENANT'S PERSONAL PROPERTY OF EVERY KIND AND DESCRIPTION, INCLUDING, WITHOUT LIMITATION TRADE FIXTURES, EQUIPMENT, INVENTORY, SCIENTIFIC RESEARCH, SCIENTIFIC EXPERIMENTS, LABORATORY ANIMALS, PRODUCT, SPECIMENS, SAMPLES, AND/OR SCIENTIFIC, BUSINESS, ACCOUNTING AND OTHER RECORDS OF EVERY KIND AND DESCRIPTION KEPT AT THE PREMISES AND ANY AND ALL INCOME DERIVED OR DERIVABLE THEREFROM; (B) THERE SHALL BE NO PERSONAL RECOURSE TO LANDLORD FOR ANY ACT OR OCCURRENCE IN, ON OR ABOUT THE PREMISES OR ARISING IN ANY WAY UNDER THIS LEASE OR ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT WITH RESPECT TO THE SUBJECT MATTER HEREOF AND ANY LIABILITY OF LANDLORD HEREUNDER SHALL BE STRICTLY LIMITED SOLELY TO LANDLORD'S INTEREST IN THE PROJECT OR ANY PROCEEDS FROM SALE OR CONDEMNATION THEREOF AND ANY INSURANCE PROCEEDS PAYABLE IN RESPECT OF LANDLORD'S INTEREST IN THE PROJECT OR IN CONNECTION WITH ANY SUCH LOSS; AND (C) IN NO EVENT SHALL ANY PERSONAL LIABILITY BE ASSERTED AGAINST LANDLORD IN CONNECTION WITH THIS LEASE NOR SHALL ANY RECOURSE BE HAD TO ANY OTHER PROPERTY OR ASSETS OF LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS. UNDER NO CIRCUMSTANCES SHALL LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS BE LIABLE FOR INJURY TO TENANT'S BUSINESS OR FOR ANY LOSS OF INCOME OR PROFIT THEREFROM.

37. **Severability**. If any clause or provision of this Lease is illegal, invalid or unenforceable under present or future laws, then and in that event, it is the intention of the parties hereto that the remainder of this Lease shall not be affected thereby. It is also the intention of the parties to this Lease that In lieu of each clause or provision of this Lease that is illegal, invalid or unenforceable, there be added, as a part of this Lease, a clause or provision as similar in effect to such illegal, invalid or unenforceable clause or provision as shall be legal, valid and enforceable.

38. **Signs; Exterior Appearance**. Tenant shall not, without the prior written consent of Landlord, which may be granted or withheld in Landlord's sole discretion: (i) attach any awnings, exterior lights, decorations, balloons, flags, pennants, banners, painting or other projection to any outside wall of the Project, (ii) use any curtains, blinds, shades or screens other than Landlord's standard window coverings, (iii) coat or otherwise sunscreen the interior or exterior of any windows, (iv) place any bottles, parcels, or other articles on the window sills, (v) place any equipment, furniture or other items of personal property on any exterior balcony, or (vi) paint, affix or exhibit on any part of the Premises or the Project any signs, notices, window or door lettering, placards, decorations, or advertising media of any type which can be viewed from the exterior of the Premises. Suite entry identification on the main entrance to the Premises and the directory tablet shall be inscribed, painted or affixed for Tenant by Landlord at the sole cost and expense of Landlord, and shall be of a size, color and type reasonably acceptable to Landlord. Interior signs on doors other than the main entrance to the Premises shall be inscribed, painted or affixed by Tenant at the sole cost and expense of Tenant, and shall be of a size, color and type reasonably acceptable to Landlord. Nothing may be placed on the exterior of corridor walls or corridor doors other than Landlord's standard lettering. The directory tablet shall be provided exclusively for the display of the name and location of tenants.

39. **Right to Expand**.

(a) **Expansion in the Project**. Tenant shall have the right, but not the obligation, to expand the Premises (the "**Expansion Right**") to include any Available Space in the Project upon the terms and conditions in this Section. For purposes of this Section 39(a), "**Available Space**" shall mean any space on the 2nd Floor or the 4th Floor of the Project which is not occupied by a tenant or which is occupied by an existing tenant whose lease is expiring within 6 months or less and such tenant does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. If there is any Available Space in the Project, Landlord shall, at such time as Landlord shall elect so long as Tenant's rights hereunder are preserved, deliver to Tenant written notice (the "**Expansion Notice**") of such Available Space, together with the terms and conditions on which Landlord is prepared to lease Tenant such Available Space. Tenant acknowledges and agrees that such terms and conditions shall include, without limitation, the following: (i) a requirement that Tenant exercise its Expansion Right with respect to no less than the entire Available Space described in the applicable Expansion Notice, and (ii) a requirement that the Term of this Lease be extended to expire concurrently with the term of the lease offered for the Available Space. Tenant shall have 20 days following delivery of the Expansion Notice ("**Negotiation Period**") to Tenant to deliver to Landlord written notification of Tenant's exercise of the Expansion Right and to negotiate with Landlord enter into an amendment to this Lease setting forth the terms for the rental of the Available Space consistent with those set forth in the Expansion Notice and otherwise consistent with the terms of this Lease (the "**Lease Amendment**"). Provided that no right to expand is exercised by any tenant with superior rights, Tenant shall be entitled to lease such Available Space upon such terms and conditions as Tenant and Landlord shall negotiate.

(b) **Amended Lease**. If for any reason the Lease Amendment has not been fully executed and delivered by both parties prior to the expiration of the Negotiation Period, Tenant shall be deemed to have waived its right to lease such Available Space until such time as the Available Space has again been leased to a third party and, subsequently, becomes available for lease, if at all, during the Term, and Landlord shall be free to lease the Available Space to any third party upon any terms and conditions.

(c) **Exceptions**. Notwithstanding the above, the Expansion Right shall not be in effect and may not be exercised by Tenant:

(i) during any period of time that Tenant is in Default under any provision of the Lease; or

(ii) if Tenant has been in Default under any provision of the Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period prior to the date on which Tenant seeks to exercise the Expansion Right.

(d) **Termination**. The Expansion Right shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Expansion Right, if, after such exercise, but prior to the commencement date of the lease of such Available Space, (i) Tenant fails to timely cure any default by Tenant under the Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Expansion Right to the date of the commencement of the lease of the Available Space, whether or not such Defaults are cured.

(e) **Subordinate**. Tenant's rights in connection with the Expansion Right are and shall be subject to and subordinate to any expansion or extension rights granted in the Project to any other parties.

(f) **Rights Personal**. Expansion Rights are personal to Tenant and are not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease.

(g) **No Extensions**. The period of time within which any Expansion Rights may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Expansion Rights.

40. **Right to Extend Term**. Tenant shall have the right to extend the Term of the Lease upon the following terms and conditions:

(a) **Extension Rights**. Tenant shall have 1 right (an "**Extension Right**") to extend the term of this Lease for 3 years (an "**Extension Term**") on the same terms and conditions as this Lease (other than Base Rent) by giving Landlord written notice of its election to exercise the Extension Right at least 9 months prior to the expiration of the Base Term of the Lease.

(i) Upon the commencement of the Extension Term, Base Rent shall be payable at the Market Rate (as defined below). Base Rent shall thereafter be adjusted on each annual anniversary of the commencement of such Extension Term by the Rent Adjustment Percentage.

(ii) As used herein, "**Market Rate**" shall mean the then market rental rate for comparable office and laboratory facilities within the boundaries of Seattle's First Hill, Denny Regrade and South Lake Union, as determined by Landlord and agreed to by Tenant, which shall in no event be less than the Base Rent payable as of the date immediately preceding the commencement of the Extension Term increased by the Rent Adjustment Percentage multiplied by such Base Rent. In addition, Landlord may impose a market rent for the parking rights provided hereunder.

(iii) If, on or before the date which is 180 days prior to the expiration of the Base Term of this Lease, Tenant has not agreed with Landlord's determination of the Market Rate after negotiating in good faith, Tenant shall be deemed to have elected arbitration as described in Section 40(b). Tenant acknowledges and agrees that, if Tenant has elected to exercise the Extension Right by delivering notice to Landlord as required In this Section 40(a), Tenant shall have no right thereafter to rescind or elect not to extend the term of the Lease for the Extension Term.

(b) **Arbitration**.

(i) Within 10 days of Tenant's notice to Landlord of its election (or deemed election) to arbitrate Market Rate, each party shall deliver to the other a proposal containing the Market Rate that the submitting party believes to be correct ("**Extension Proposal**"). If either party fails to timely submit an Extension Proposal, the other party's submitted proposal shall determine the Base Rent for the Extension Term. If both parties submit Extension Proposals, then Landlord and Tenant shall meet within 7 days after delivery of the last Extension Proposal and make a good faith attempt to mutually appoint a single Arbitrator (and defined below) to determine the Market Rate. If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, the other party's submitted proposal shall determine the Base Rent for the Extension Term. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so appointed cannot agree on the appointment of the third Arbitrator within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

(ii) The determination of the Market Rate shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the single Arbitrator shall be final and binding upon the parties. The average of the two closest Arbitrators in a three Arbitrator panel shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party and the fees and expenses of the third Arbitrator shall be borne equally by both parties. If the Market Rate are not determined by the first day of the Extension Term, then Tenant shall pay Landlord Base Rent in an amount equal to the Base Rent in effect immediately prior to the Extension Term and increased by the Rent Adjustment Percentage until such determination is made. After the determination of the Market Rate, the parties shall make any necessary adjustments to such payments made by Tenant. Landlord and Tenant shall then execute an amendment recognizing the Market Rate for the initial year of the Extension Term.

(iii) An "**Arbitrator**" shall be any person appointed by or on behalf of either party or appointed pursuant to the provisions hereof and: (i) shall be (a) a member of the American Institute of Real Estate Appraisers with not less than 10 years of experience in the appraisal of improved office and high tech industrial real estate in the greater Seattle metropolitan area, or (b) a licensed commercial real estate broker with not less than 15 years experience representing landlords and/or tenants in the leasing of high tech or life sciences space in the greater Seattle metropolitan area, (ii) devoting substantially all of their time to professional appraisal or brokerage work, as applicable, at the time of appointment and (iii) be in all respects impartial and disinterested.

(c) **Rights Personal**. Extension Rights are personal to Tenant and are not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease,

(d) **Exceptions**. Notwithstanding anything set forth above to the contrary, Extension Rights shall not be in effect and Tenant may not exercise any of the Extension Rights:

(i) during any period of time that Tenant is in Default under any provision of this Lease; or

(ii) if Tenant has been in Default under any provision of this Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period immediately prior to the date that Tenant intends to exercise an Extension Right, whether or not the Defaults are cured.

(e) **No Extensions**. The period of time within which any Extension Rights may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Extension Rights.

(f) **Termination**. The Extension Rights shall terminate and be of no further force or effect even after Tenant's due and timely exercise of an Extension Right, if, after such exercise, but prior to the commencement date of an Extension Term, (i) Tenant fails to timely cure any default by Tenant under this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of an Extension Right to the date of the commencement of the Extension Term, whether or not such Defaults are cured.

41. **Intentionally Omitted**.

42. **Termination Rights**

(a) If, at anytime prior to the 42nd month of the Term, Landlord, or any affiliate of Landlord, and Tenant have entered into a new lease agreement ("**New Lease**") pursuant to which Tenant shall lease space comparable in size and quality to the Premises at another property in Seattle, Washington owned or operated by Landlord or its affiliate ("**New Premises**") for a term comparable to the Term of this Lease and, otherwise, upon terms and conditions acceptable to Landlord, or its affiliate, and Tenant in their respective sole discretion, this Lease shall terminate as of the date ("**New Lease Commencement Date**") that Tenant commences to pay base rent under the New Lease for the New Premises. Tenant acknowledges that nothing contained herein shall obligate Landlord in any way to enter into the New Lease nor shall anything contained herein be construed to grant to Tenant any option or right to lease any space at another property owned or operated by Landlord or its affiliate. If this Lease is terminated pursuant to this Section 42(a), then, upon the New Lease Commencement Date, Tenant shall vacate the Premises and deliver possession thereof to Landlord in the condition required by the terms of this Lease on or before the New Lease Commencement Date and Tenant shall have no further obligations under this Lease except for those accruing prior to the New Lease Commencement Date and those which, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease.

(b) Tenant shall have the right to terminate this Lease ("**Early Termination Right**") any time after the 42nd month of the Base Term and prior to the expiration of the Base Term, so long as Tenant delivers to Landlord a written notice ("**Termination Notice**"), of its intent to exercise its Early Termination Right at least 9 months prior to the date upon which Tenant desires to terminate this Lease ("**Early Termination Date**"), which Termination Notice shall state the Early Termination Date. Upon receipt of the Early Termination Notice, Landlord shall notify Tenant of the unamortized portion, as calculated by Landlord, of the sum of (i) the TI Allowance, (ii) the Additional TI Allowance; and (iii) the leasing commissions paid by Landlord to The Staubach Company with respect to the Lease, all fully amortized with 10% interest over the Base Term ("**Early Termination Payment**"). Tenant shall pay the Early Termination Payment to Landlord within 10 business days after receipt of notice of such amount from Landlord. If Tenant timely and properly exercises the Early Termination Right and pays the Early Termination Payment, Tenant shall vacate the Premises and deliver possession thereof to Landlord in the condition required by the terms of this Lease on or before the Early Termination Date and Tenant shall have no further obligations under this Lease except for those accruing prior to the Early Termination Date and those which, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease.

43. **Sales Tax Deferral/Exemption**.

(a) Retail sales tax otherwise applicable to portions of construction of the Tenant Improvements may be eligible for deferral pursuant to RCW 82.63 (the "**Sales Tax Deferral**") as a result of Tenant's intended use of the Premises. Promptly following the execution of this Lease, Tenant shall prepare and process applications with the Washington State Department of Revenue for a deferral of state and local sales and use taxes with respect to the construction of the Tenant Improvements. Landlord shall, at no cost or expense to Landlord, cooperate with Tenant's preparation and processing of such applications. Tenant shall notify Landlord in writing once the Sales Tax Deferral has been granted by the Department of Revenue. If the retail sales tax for any of the Tenant Improvements requested by Tenant is deferred, and if, for any reason, any part of the retail sales tax so deferred is subsequently required to be repaid, Tenant shall promptly pay the same, together with any interest, penalties, or other charges that are or become due in connection therewith, and Tenant shall indemnify and hold Landlord harmless from any and all costs, expenses, losses, damages, liability and claims arising out of or related to any retail sales tax deferral for the Tenant Improvements. Tenant acknowledges and agrees that Landlord shall have no liability in the event that any design, construction, construction managements services and/or any other activities performed by Landlord prior to the date hereof preclude or limit Tenant's ability to obtain the Sales Tax Deferral. Landlord hereby agrees that, to the extent Landlord realizes cost savings because of the tax deferral, Landlord shall pass the economic benefit to Tenant in the form of reduced rent payments.

(b) Tenant shall on an annual basis report to Landlord the nature of Tenant's use of the Premises and the extent to which such use does not qualify for the Sales Tax Deferral and complete the annual survey required by RCW 82.63.020. Tenant shall, after consultation with Landlord, be responsible for reporting any non-qualifying use to the State of Washington Department of Revenue and paying any tax (plus any interest or penalties) resulting from the non-qualifying use and shall deliver copies of the same to Landlord concurrently with its delivery of the same to the State of Washington Department of Revenue. Tenant acknowledges and agrees that, as between Landlord and Tenant, Tenant shall be solely responsible for paying for any tax resulting from any non-qualifying use.

(c) Landlord will, at no cost or expense to Landlord, reasonably cooperate with and assist Tenant In any challenges or audits to the Sales Tax Deferral benefit. In any contest regarding the Sales Tax Deferral benefit, Tenant shall be the main contact with the Department of Revenue; provided, however, that Tenant shall promptly provide Landlord with copies of any correspondence between Tenant and the Department of Revenue and Landlord shall have the right to be present at any and all meetings or proceedings relating to any such contest. Landlord and Tenant shall promptly notify each other of any such challenges or audits that they become aware of and will promptly forward to one another any correspondence regarding any such challenge or audit. Tenant shall have the right to contest or review any proceedings regarding the Sales Tax Deferral benefit, which may be instituted either during or after the Term of this Lease. Landlord will on a timely basis execute all reasonably necessary instruments submitted by Tenant to Landlord for execution in connection with any such protest, appeal or other proceedings, provided, however, that the same are reasonably acceptable to Landlord. If any proceeding may only be instituted and maintained by Landlord, then Landlord shall do so at Tenant's cost and expense upon the request of Tenant. Landlord shall not settle any appeal or other proceeding with respect to such Sales Tax Deferral without obtaining Tenant's prior written approval in each instance (not to be unreasonably withheld, conditioned or delayed). Landlord shall not abandon any appeal without first offering to Tenant the right to prosecute such appeal at Tenant's expense, which election Tenant shall make by written notice to Landlord within 15 days after notice by Landlord of its intent to so abandon its appeal. Tenant shall be entitled to any resulting refund obtained by reason of any such proceeding or otherwise, whether obtained during or after the expiration of the Term and whether obtained by Landlord or Tenant. Tenant shall Indemnify and hold Landlord harmless from any and all costs, expenses, losses, damages, liability and claims arising out of or related to Landlord's compliance with the provisions of this Section 43(c), including, without limitation, as a result of the execution of any instruments provided to Landlord by Tenant for execution.

The provisions of this Section 43 shall survive the expiration or termination of this Lease.

44. **Miscellaneous**.

(a) **Notices**. All notices or other communications between the parties shall be in writing and shall be deemed duly given upon delivery or refusal to accept delivery by the addressee thereof if delivered in person, or upon actual receipt if delivered by reputable overnight guaranty courier, addressed and sent to the parties at their addresses set forth above. Landlord and Tenant may from time to time by written notice to the other designate another address for receipt of future notices.

(b) **Joint and Several Liability**. If and when included within the term "Tenant," as used in this instrument, there is more than one person or entity, each shall be jointly and severally liable for the obligations of Tenant.

(c) **Financial Information**. Tenant shall furnish Landlord with true and complete copies of (i) Tenant's most recent audited annual financial statements within 120 days of the end of each of Tenant's fiscal years during the Term, (ii) Tenant's most recent unaudited quarterly financial statements within 45 days of the end of each of Tenant's first three fiscal quarters of each of Tenant's fiscal years during the Term, (iii) at Landlord's request from time to time, updated business plans, Including cash flow projections and/or pro forma balance sheets and income statements, all of which shall be treated by Landlord as confidential information belonging to Tenant, (iv) corporate brochures and/or profiles prepared by Tenant for prospective investors, and (v) any other financial information or summaries that Tenant typically provides to its lenders or shareholders. Landlord agrees to maintain the confidentiality of the financial information and other non-public information provided to Landlord by Tenant pursuant to this Section 44(c), except as may be required by applicable Legal Requirements. The provisions of this Section 44(c) shall survive the expiration or any earlier termination of this Lease.

(d) **Recordation**. Neither this Lease nor a memorandum of lease shall be filed by or on behalf of Tenant in any public record unless such filing is required to comply with applicable Legal Requirements and Tenant has provided Landlord with prior written notice thereof. Landlord may prepare and file, and upon request by Landlord Tenant will execute, a memorandum of lease.

(e) **Interpretation**. The normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Lease or any exhibits or amendments hereto. Words of any gender used in this Lease shall be held and construed to include any other gender, and words In the singular number shall be held to include the plural, unless the context otherwise requires. The captions inserted in this Lease are for convenience only and in no way define, limit or otherwise describe the scope or intent of this Lease, or any provision hereof, or in any way affect the interpretation of this Lease.

(f) **Not Binding Until Executed**. The submission by Landlord to Tenant of this Lease shall have no binding force or effect, shall not constitute an option for the leasing of the Premises, nor confer any right or impose any obligations upon either party until execution of this Lease by both parties.

(g) **Limitations on Interest**. It is expressly the intent of Landlord and Tenant at all times to comply with applicable law governing the maximum rate or amount of any interest payable on or in connection with this Lease. If applicable law is ever judicially interpreted so as to render usurious any interest called for under this Lease, or contracted for, charged, taken, reserved, or received with respect to this Lease, then it is Landlord's and Tenant's express intent that all excess amounts theretofore collected by Landlord be credited on the applicable obligation (or, if the obligation has been or would thereby be paid in full, refunded to Tenant), and the provisions of this Lease immediately shall be deemed reformed and the amounts thereafter collectible hereunder reduced, without the necessity of the execution of any new document, so as to comply with the applicable law, but so as to permit the recovery of the fullest amount otherwise called for hereunder.

(h) **Choice of Law**. Construction and interpretation of this Lease shall be governed by the internal laws of the state in which the Premises are located, excluding any principles of conflicts of laws.

(i) **Time**. Time is of the essence as to the performance of Tenant's obligations under this Lease.

(j) **Incorporation by Reference**. All exhibits and addenda attached hereto are hereby incorporated into this Lease and made a part hereof. If there is any conflict between such exhibits or addenda and the terms of this Lease, such exhibits or addenda shall control.

(k) **Entire Agreement**. This Lease, including the exhibits attached hereto, constitutes the entire agreement between Landlord and Tenant pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements, understandings, letters of intent, negotiations and discussions, whether oral or written, of the parties, and there are no warranties, representations or other agreements, express or implied, made to either party by the other party in connection with the subject matter hereof except as specifically set forth herein.

(l) **Hazardous Activities**. Notwithstanding any other provision of this Lease, Landlord, for itself and its employees, agents and contractors, reserves the right to refuse to perform any repairs or services in any portion of the Premises which, pursuant to Tenant's routine safety guidelines, practices or custom or prudent industry practices, require any form of protective clothing or equipment other than safety glasses. In any such case, Tenant shall contract with parties who are acceptable to Landlord, in Landlord's reasonable discretion, for all such repairs and services, and Landlord shall, to the extent required, equitably adjust Tenant's Share of Operating Expenses in respect of such repairs or services to reflect that Landlord is not providing such repairs or services to Tenant.

**[ Signatures on next page ]**

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the day and year first above written.

**TENANT**:

**SPALTUDAQ CORP.**,
a Delaware corporation

By: /s/ [illegible]
Its: President and CEO

**LANDLORD**:

**ALEXANDRIA REAL ESTATE EQUITIES, INC.**,
a Maryland corporation

By: /s/ Jackie Clem
Name: Jackie Clem
Title: VP

[TENANT NOTARIAL ACKNOWLEDGMENT]

STATE OF WASHINGTON )
) ss.
COUNTY OF KING )

On May 24, 2007 before me, David Fanning, Pres. & CEO (here insert name and title of officer), personally appeared at 1616 Eastlake Ave E, Ste 200, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature /s/ Lindsay A. Rayle (Seal)

[LANDLORD NOTARIAL ACKNOWLEDGMENT]

STATE OF CALIFORNIA )
) ss.
COUNTY OF LOS ANGELES )

On June 13, 2007 before me, Elizabeth M. Aguilera, Notary Public (here insert name and title of officer), personally appeared Jackie Clem, personally known to me (~~or proved to me on the basis of satisfactory evidence~~) to be the person~~(s)~~ whose name~~(s)~~ is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he/~~she/~~they~~ executed the same in ~~his/~~her/~~their~~ authorized capacity~~(ies)~~, and that by ~~his/~~her/~~their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument.

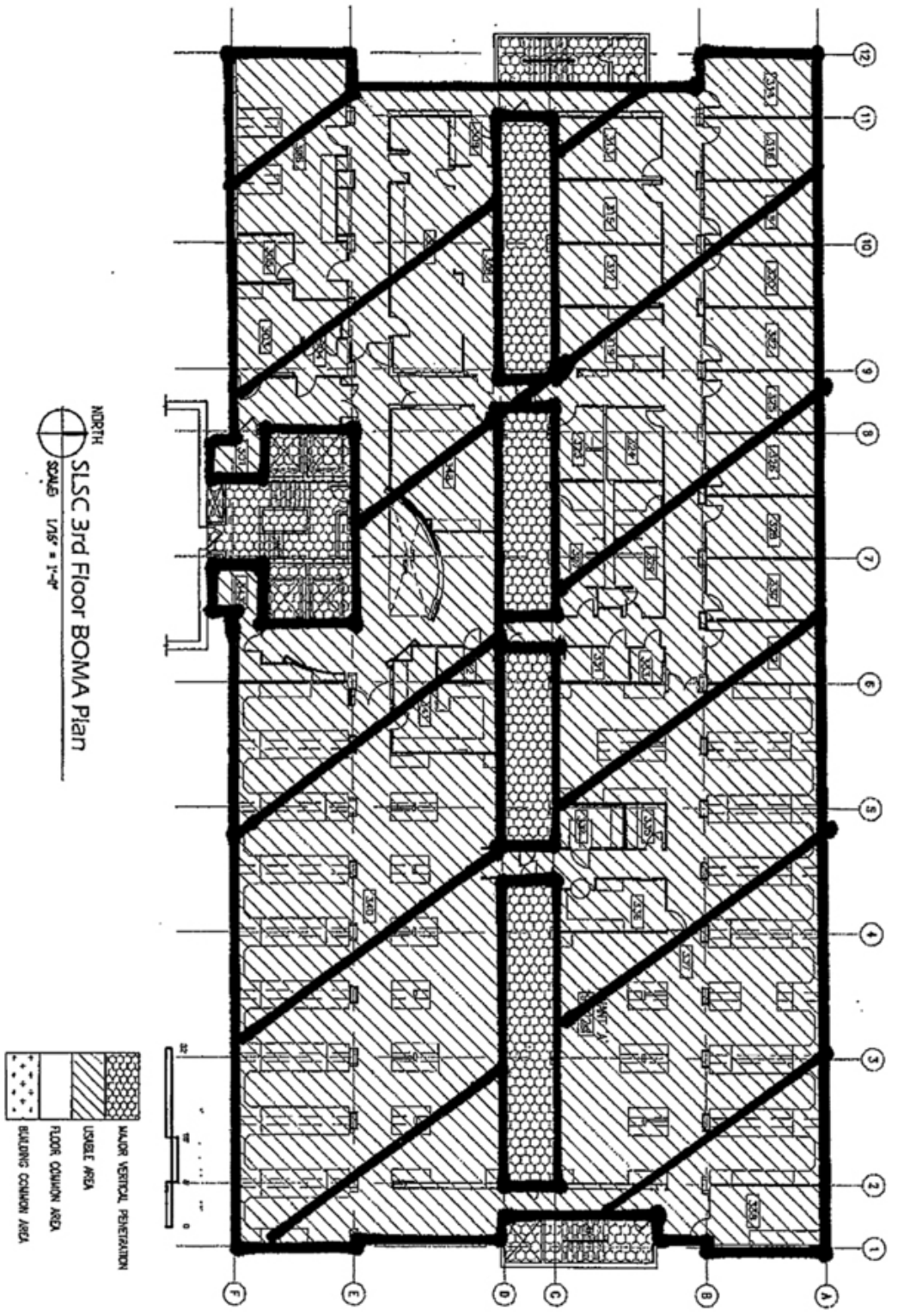
WITNESS my hand and official seal.

Signature /s/ Elizabeth M. Aguilera (Seal)

**EXHIBIT A TO LEASE**

**DESCRIPTION OF PREMISES**

SEE ATTACHED




3rd. Flr.

PROJECT #: 505.08
DATE: 10.31.06
REF. DRAWING:

Alexandria Real Estate Equities
1124 Columbia BOMA Calcs

Sheldon
2144 Westlake Avenue North Suite 'F', Seattle, Wa 98109
(T) 206.625.1000 / (F) 206.625.0295

**EXHIBIT B TO LEASE**

**DESCRIPTION OF PROJECT**

SEE ATTACHED

LEGAL DESCRIPTION

PARCEL BLOCK 94

LOTS 1 THRU 8, INCLUSIVE, BLOCK 94, TERRY'S SECOND ADDITION TO THE TOWN OF SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 1 OF PLATS, PAGE 67, IN KING COUNTY, WASHINGTON; EXCLUDING LOTS 6 AND 8;

TOGETHER WITH THE VACATED ALLEY ADJOINING SAID LOTS.

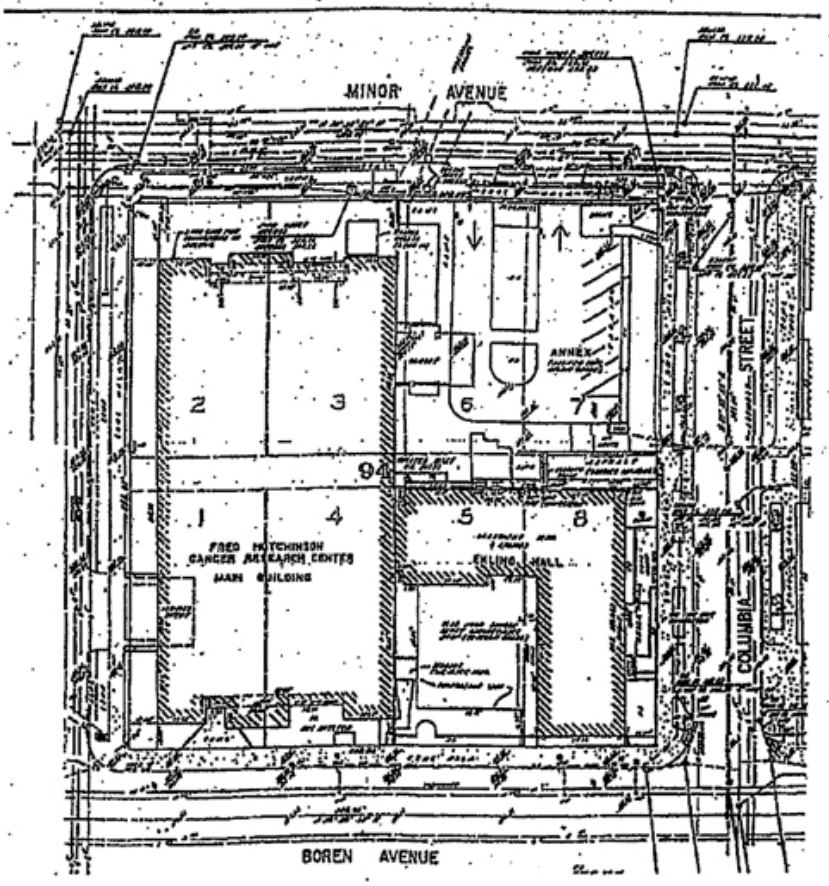


**EXHIBIT C TO LEASE**

**WORK LETTER**

THIS WORK LETTER (this "**Work Letter**") is incorporated into that certain Lease (the "**Lease**") dated as of May __, 2007 by and between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), and **SPALTUDAQ CORP.**, a Delaware corporation ("**Tenant**"). Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements**.

(a) **Tenant's Authorized Representative**. Tenant designates Russ Hawkinson and David Fanning (any such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change either Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord.

(b) **Landlord's Authorized Representative**. Landlord designates Peter Moglia and Tim McBride (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant.

(c) **Architects, Consultants and Contractors**. Landlord and Tenant hereby acknowledge and agree that the architect (the "**TI Architect**") for the Tenant Improvements (as defined in Section 2(a) below), the general contractor and any subcontractors for the Tenant Improvements shall be selected by Tenant, subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Landlord shall be named a third party beneficiary of any contract entered into by Tenant with the TI Architect, any consultant, any contractor or any subcontractor, and of any warranty made by any contractor or any subcontractor.

2. **Tenant Improvements**.

(a) **Tenant Improvements Defined**. As used herein, "**Tenant Improvements**" shall mean all improvements to the Premises desired by Tenant of a fixed and permanent nature. Other than funding the TI Allowance (as defined below) as provided herein, Landlord shall not have any obligation whatsoever with respect to the finishing of the Premises for Tenant's use and occupancy. Tenant shall have the right to remove the laboratory space improvements consisting of 2 benches and 1 fume hood located as of the Commencement Date in the portion of the Premises more particularly shown on **Exhibit G** attached hereto; provided, however, that (i) the benches and fume hood are not destroyed during the removal of the same and are delivered to a storage facility as directed by Landlord for future use, and (ii) at the expiration of the Term of the Lease, Landlord will reinstall the benches and Tenant will install the counter tops and the shelving connected to the counter tops.

(b) **Tenant's Space Plans**. Tenant shall deliver to Landlord schematic drawings and outline specifications and a written scope of work (collectively, the "**TI Design Drawings**") detailing Tenant's requirements for the Tenant Improvements. Not more than 5 business days thereafter, Landlord shall deliver to Tenant the written objections, questions or comments of Landlord and the TI Architect with regard to the TI Design Drawings. Tenant shall cause the TI Design Drawings to be revised to address such written comments and shall resubmit said drawings to Landlord for approval within 5 business days thereafter. Such process shall continue until Landlord has approved the TI Design Drawings.

(c) **Working Drawings**. Not later than 15 business days following the approval of the TI Design Drawings by Landlord, Tenant shall cause the TI Architect to prepare and deliver to Landlord for review and comment construction plans, specifications and drawings for the Tenant Improvements ("**TI Construction Drawings**"), which TI Construction Drawings shall be prepared substantially in accordance with the TI Design Drawings. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant's requirements for the Tenant Improvements. Landlord shall deliver its written comments on the TI Construction Drawings to Tenant not later than 10 business days after Landlord's receipt of the same; provided, however, that Landlord may not disapprove any matter that is consistent with the TI Design Drawings. Tenant and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Landlord how Tenant proposes to respond to such comments. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the TI Design Drawings, Landlord shall approve the TI Construction Drawings submitted by Tenant. Once approved by Landlord, subject to the provisions of Section 4 below, Tenant shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(a) below).

(d) **Approval and Completion**. if any dispute regarding the design of the Tenant Improvements is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord's and Tenant's positions with respect to such dispute, (ii) that all costs and expenses resulting from any such decision by Tenant shall be payable out of the TI Fund (as defined in Section 5(d) below), and (iii) Tenant's decision will not affect the base Building, structural components of the Building or any Building systems (in which case Landlord shall make the final decision). Any changes to the TI Construction Drawings following Landlord's and Tenant's approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

3. **Performance of the Tenant Improvements**.

(a) **Commencement and Permitting of the Tenant Improvements**. Tenant shall commence construction of the Tenant improvements upon obtaining and delivering to Landlord applicable permits (the "**TI Permit**") authorizing the construction of the Tenant Improvements consistent with the TI Construction Drawings approved by Landlord. The cost of obtaining the TI Permit shall be payable from the TI Fund. Landlord shall assist Tenant in obtaining the TI Permit. Prior to the commencement of the Tenant Improvements, Tenant shall deliver to Landlord a copy of any contract with Tenant's contractors (including the TI Architect), and certificates of Insurance from any contractor performing any part of the Tenant Improvement evidencing industry standard commercial general liability, automotive liability, "builder's risk", and workers' compensation insurance. Tenant shall cause the general contractor to provide a certificate of insurance naming Landlord and Landlord's lender (if any) as additional insureds for the general contractor's liability coverages required above.

(b) **Selection of Materials, Etc.** Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Tenant and Landlord, the option will be within Tenant's reasonable discretion if the matter concerns the Tenant Improvements, and within Landlord's sole and absolute subjective discretion if the matter concerns the structural components of the Building or any Building system.

(c) **Tenant Liability**. Tenant shall be responsible for correcting any deficiencies or defects in the Tenant Improvements.

(d) **Substantial Completion**. Tenant shall substantially complete or cause to be substantially completed the Tenant Improvements in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature which do not interfere with the use of the Premises ("**Substantial Completion**" or "**Substantially Complete**"). Upon Substantial Completion of the Tenant Improvements, Tenant shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AlA**") document G704. For purposes of this Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comport with good design, engineering, and construction practices which are not material; or (iii) to make reasonable adjustments for field deviations or conditions encountered during the construction of the Tenant Improvements.

4. **Changes**. Any changes requested by Tenant to the Tenant Improvements after the delivery and approval by Landlord of the TI Design Drawings, shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Right to Request Changes**. If Tenant shall request changes ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall review and approve or disapprove such Change Request within 10 business days thereafter, provided that Landlord's approval shall not be unreasonably withheld, conditioned or delayed.

(b) **Implementation of Changes**. If Landlord approves such Change and Tenant deposits with Landlord any Excess TI Costs (as defined in Section 5(d) below) required in connection with such Change, Tenant may cause the approved Change to be instituted. If any TI Permit modification or change is required as a result of such Change, Tenant shall promptly provide Landlord with a copy of such TI Permit modification or change.

5. **Costs**.

(a) **Budget For Tenant Improvements**. Before the commencement of construction of the Tenant Improvements, Tenant shall obtain a detailed breakdown, by trade, of the costs incurred or that will be incurred, in connection with the design and construction of the Tenant Improvements (the "**Budget**"), and deliver a copy of the Budget to Landlord for Landlord's approval, which shall not be unreasonably withheld or delayed, The Budget shall be based upon the TI Construction Drawings approved by Landlord and shall include a payment to Landlord of administrative rent ("**Administrative Rent**") equal to 2% of the TI Costs (as hereinafter defined) for monitoring and inspecting the construction of the Tenant Improvements, which sum shall be payable from the TI Fund. Such Administrative Rent shall Include, without limitation, all out-of-pocket costs, expenses and fees incurred by or on behalf of Landlord arising from, out of, or in connection with, such monitoring of the construction of the Tenant improvements, and shall be payable out of the TI Fund. If the Budget is greater than the TI Allowance, Tenant shall deposit with Landlord the difference, in cash, prior to the commencement of construction of the Tenant Improvements, for disbursement by Landlord as described in Section 5(d).

(b) **TI Allowance**. Landlord shall provide to Tenant a tenant improvement allowance (collectively, the "**TI Allowance**") as follows:

1. a "**Tenant Improvement Allowance**" in the maximum amount of $117,384.00, which is included in the Base Rent set forth in the Lease; and

2. the Additional TI Allowance, which shall, to the extent used, result in adjustments to the Base Rent as set forth in the Lease.

Before the Rent Commencement Date, Tenant shall notify Landlord how much Additional Tenant Improvement Allowance Tenant has elected to receive from Landlord. Such election shall be final and binding on Tenant, and may not thereafter be modified without Landlord's consent, which may be granted or withheld in Landlord's sole and absolute subjective discretion The TI Allowance shall be disbursed in accordance with this Work Letter.

Tenant shall have no right to the use or benefit (including any reduction to Base Rent) of any portion of the TI Allowance not required for the construction of (i) the Tenant Improvements described in the TI Construction Drawings approved pursuant to Section 2(d) or (ii) any Changes pursuant to Section 4. Tenant shall have no right to any portion of the TI Allowance that is not disbursed before the last day of the month that is 18 months after the Commencement Date.

(c) **Costs Includable in TI Fund**. The TI Fund shall be used solely for the payment of design, permits and construction costs in connection with the construction of the Tenant improvements, including, without limitation, the cost of electrical power and other utilities used in connection with the construction of the Tenant Improvements, the cost of preparing the TI Design Drawings and the TI Construction Drawings, all costs set forth in the Budget, including Landlord's Administrative Rent, and the cost of Changes (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, the TI Fund shall not be used to purchase any furniture, fixtures, personal property or other non-Building system materials or equipment, including, but not be limited to, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Tenant Improvements, except for Tenant's voice and data cabling, cage washing equipment, fume hoods, autoclaves and other fixed laboratory equipment.

(d) **Excess TI Costs**. Landlord shall have no obligation to bear any portion of the cost of any of the Tenant Improvements except to the extent of the TI Allowance. If at any time and from time-to-time, the remaining TI Costs under the Budget exceed the remaining unexpended TI Allowance, Tenant shall deposit with Landlord, as a condition precedent to Landlord's obligation to complete the Tenant Improvements, 100% of the then current TI Cost in excess of the remaining TI Allowance ("**Excess TI Costs**"). If Tenant fails to deposit, or is late in depositing any Excess TI Costs with Landlord, Landlord shall have all of the rights and remedies set forth in the Lease for nonpayment of Rent (including, but not limited to, the right to interest at the Default Rate and the right to assess a late charge). For purposes of any litigation instituted with regard to such amounts, those amounts will be deemed Rent under the Lease. The TI Allowance and Excess TI Costs is herein referred to as the "**TI Fund**." Funds deposited by Tenant shall be the first thereafter disbursed to pay TI Costs. Notwithstanding anything to the contrary set forth in this Section 5(d), Tenant shall be fully and solely liable for TI Costs and the cost of Minor Variations in excess of the TI Allowance. If upon Substantial Completion of the Tenant Improvements and the payment of all sums due in connection therewith there remains any undisbursed portion of the TI Fund, Tenant shall be entitled to such undisbursed TI Fund solely to the extent of any Excess TI Costs deposit Tenant has actually made with Landlord.

(e) **Payment for TI Costs**. During the course of design and construction of the Tenant Improvements, Landlord shall pay TI Costs once a month against a draw request in Landlord's standard form, containing such certifications, lien waivers (including a conditional lien release for each progress payment and unconditional lien releases for the prior month's progress payments), inspection reports and other matters as Landlord customarily obtains, to the extent of Landlord's approval thereof for payment, no later than 30 days following receipt of such draw request; provided, however, that Landlord shall not unreasonably disapprove a draw request that is consistent with the Budget and is submitted in proper form with all required supporting materials. Upon completion of the Tenant Improvements (and prior to any final disbursement of the TI Fund), Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and first tier subcontractors who did the work and final, unconditional lien waivers from all such contractors and first tier subcontractors; (ii) as-built plans (one copy in print format and two copies in electronic CAD format) for such Tenant Improvements; (iii) a certification of substantial completion in Form AIA G704, (iv) a certificate of occupancy for the Premises; and (v) copies of all operation and maintenance manuals and warranties affecting the Premises.

6. **Miscellaneous**.

(a) **Consents**. Whenever consent or approval of either party is required under this Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, except as may be expressly set forth herein to the contrary.

(b) **Modification**. No modification, waiver or amendment of this Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant

**[ Signatures on next page ]**

**IN WITNESS WHEREOF**, Landlord and Tenant have executed this Work Letter to be effective on the date first above written.

TENANT:

**SPALTUDAQ CORP.**,
a Delaware corporation

By: /s/ [illegible]
Its: President and CEO

LANDLORD:

**ALEXANDRIA REAL ESTATE EQUITIES, INC.**,
a Maryland corporation

By: /s/ Jackie Clem
Name: Jackie Clem
Title: VP

**EXHIBIT D TO LEASE**

**ACKNOWLEDGMENT OF COMMENCEMENT DATE**

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made as of this _____ day of _____, 2007, between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), and **SPALTUDAQ CORP.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease dated as of May 24, 2007 (the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

Landlord and Tenant hereby acknowledge and agree, for all purposes of the Lease, that the Commencement Date of the Base Term of the Lease is June 25, 2007, the Rent Commencement Date is August 25, 2007 and the termination date of the Base Term of the Lease shall be midnight on June 24, 2012. In case of conflict between the terms of the Lease and the terms of this Acknowledgment of Commencement Date, this Acknowledgment of Commencement Date shall control for all purposes.

IN WITNESS WHEREOF, Landlord and Tenant have executed this ACKNOWLEDGMENT OF COMMENCEMENT DATE to be effective on the date first above written.

**TENANT:**

**SPALTUDAQ CORP.**,
a Delaware corporation

By: _____
Its: _____

**LANDLORD:**

**ALEXANDRIA REAL ESTATE EQUITIES, INC.**,
a Maryland corporation

By: _____
Name: _____
Title: _____

**EXHIBIT D TO LEASE**

**ACKNOWLEDGMENT OF COMMENCEMENT DATE**

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made as of this _____ day of _____, 2007, between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), and **SPALTUDAQ CORP.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease dated as of _____, _____ (the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

Landlord and Tenant hereby acknowledge and agree, for all purposes of the Lease, that the Commencement Date of the Base Term of the Lease is _____, _____, the Rent Commencement Date is _____, _____ and the termination date of the Base Term of the Lease shall be midnight on _____, _____. In case of conflict between the terms of the Lease and the terms of this Acknowledgment of Commencement Date, this Acknowledgment of Commencement Date shall control for all purposes.

IN WITNESS WHEREOF, Landlord and Tenant have executed this ACKNOWLEDGMENT OF COMMENCEMENT DATE to be effective on the date first above written.

**TENANT:**

**SPALTUDAQ CORP.**,
a Delaware corporation

By: _____
Its: _____

**LANDLORD:**

**ALEXANDRIA REAL ESTATE EQUITIES, INC.**,
a Maryland corporation

By: _____
Name: _____
Title: _____

**EXHIBIT E TO LEASE**

**Rules and Regulations**

1. The sidewalk, entries, and driveways of the Project shall not be obstructed by Tenant, or any Tenant Party, or used by them for any purpose other than ingress and egress to and from the Premises.

2. Tenant shall not place any objects, including antennas, outdoor furniture, etc., in the parking areas, landscaped areas or other areas outside of its Premises, or on the roof of the Project.

3. Except for animals assisting the disabled, no animals shall be allowed in the offices, halls, or corridors in the Project.

4. Tenant shall not disturb the occupants of the Project or adjoining buildings by the use of any radio or musical instrument or by the making of loud or improper noises.

5. If Tenant desires telegraphic, telephonic or other electric connections in the Premises, Landlord or its agent will direct the electrician as to where and how the wires may be introduced; and, without such direction, no boring or cutting of wires will be permitted. Any such installation or connection shall be made at Tenant's expense.

6. Tenant shall not install or operate any steam or gas engine or boiler, or other mechanical apparatus in the Premises, except as specifically approved in the Lease. The use of oil, gas or inflammable liquids for heating, lighting or any other purpose is expressly prohibited. Explosives or other articles deemed extra hazardous shall not be brought Into the Project.

7. Parking any type of recreational vehicles is specifically prohibited on or about the Project. Except for the overnight parking of operative vehicles, no vehicle of any type shall be stored in the parking areas at any time. In the event that a vehicle is disabled, it shall be removed within 48 hours. There shall be no "For Sale" or other advertising signs on or about any parked vehicle. All vehicles shall be parked in the designated parking areas in conformity with all signs and other markings. All parking will be open parking, and no reserved parking, numbering or lettering of individual spaces will be permitted except as specified by Landlord.

8. Tenant shall maintain the Premises free from rodents, insects and other pests.

9. Landlord reserves the right to exclude or expel from the Project any person who, in the judgment of Landlord, is intoxicated or under the influence of liquor or drugs or who shall in any manner do any act in violation of the Rules and Regulations of the Project.

10. Tenant shall not cause any unnecessary labor by reason of Tenant's carelessness or indifference in the preservation of good order and cleanliness. Landlord shall not be responsible to Tenant for any loss of property on the Premises, however occurring, or for any damage done to the effects of Tenant by the janitors or any other employee or person.

11. Tenant shall give Landlord prompt notice of any defects in the water, lawn sprinkler, sewage, gas pipes, electrical lights and fixtures, heating apparatus, or any other service equipment affecting the Premises.

12. Tenant shall not permit storage outside the Premises, including without limitation, outside storage of trucks and other vehicles, or dumping of waste or refuse or permit any harmful materials to be placed in any drainage system or sanitary system in or about the Premises.

13. All moveable trash receptacles provided by the trash disposal firm for the Premises must be kept in the trash enclosure areas, if any, provided for that purpose.

14. No auction, public or private, will be permitted on the Premises or the Project.

15. No awnings shall be placed over the windows in the Premises except with the prior written consent of Landlord.

16. The Premises shall not be used for lodging, sleeping or cooking or for any immoral or illegal purposes or for any purpose other than that specified in the Lease. No gaming devices shall be operated in the Premises.

17. Tenant shall ascertain from Landlord the maximum amount of electrical current which can safely be used in the Premises, taking into account the capacity of the electrical wiring in the Project and the Premises and the needs of other tenants, and shall not use more than such safe capacity. Landlord's consent to the installation of electric equipment shall not relieve Tenant from the obligation not to use more electricity than such safe capacity.

18. Tenant assumes full responsibility for protecting the Premises from theft, robbery and pilferage.

19. Tenant shall not install or operate on the Premises any machinery or mechanical devices of a nature not directly related to Tenant's ordinary use of the Premises and shall keep all such machinery free of vibration, noise and air waves which may be transmitted beyond the Premises.

**EXHIBIT F TO LEASE**

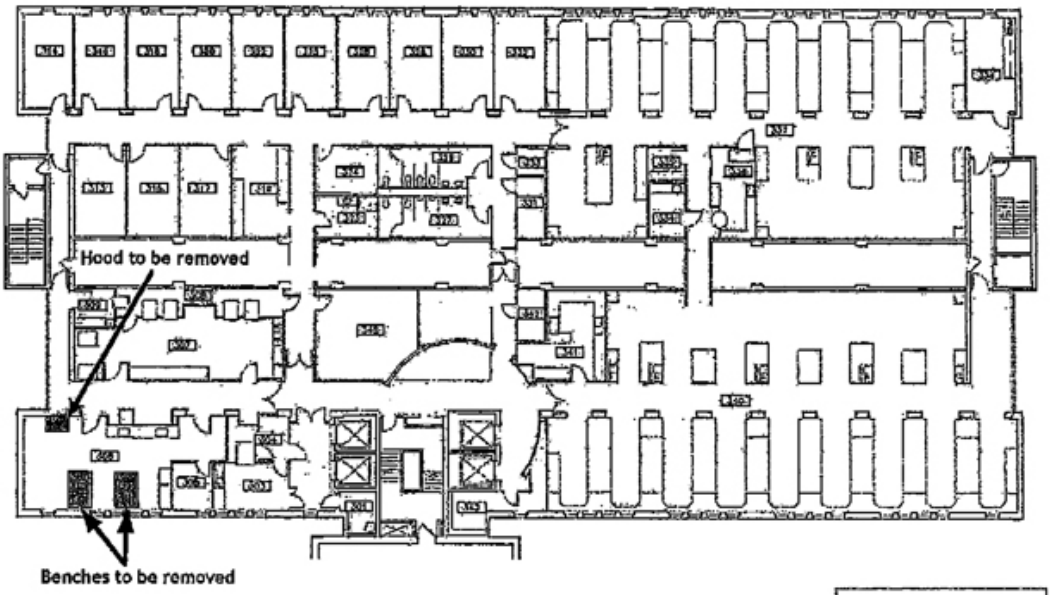
**TENANT'S PERSONAL PROPERTY**

None.

**EXHIBIT G TO LEASE**

**REMOVABLE IMPROVEMENTS**

SEE ATTACHED




SEATTLE LIFE SCIENCES CENTER
THIRD FLOOR PLAN

NORTH

SCALE: N.T.S.

ALEXANDRIA

**FIRST AMENDMENT TO LEASE**

THIS FIRST AMENDMENT TO LEASE (this "**First Amendment**") is made as of October 11, 2011, by and between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), and **THERACLONE SCIENCES, INC.**, a Delaware corporation ("**Tenant**").

**RECITALS**

**A.** Landlord and Tenant are now parties to that certain Lease Agreement dated as of May 24, 2007 (the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 24,346 rentable square feet ("**Premises**") in a building located at 1124 Columbia Street, Seattle, Washington. The Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

**B.** Landlord and Tenant desire, subject to the terms and conditions set forth herein, to amend the Lease to, among other things, extend the Base Term of the Lease through June 30, 2018.

**NOW, THEREFORE,** in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

**1.** **Base Term**. Commencing on the date of this First Amendment, the defined term "**Base Term**" on page 1 of the Lease is hereby deleted in its entirety and replaced with the following:

"**Base Term:** Beginning on the Commencement Date and ending on June 30, 2018."

**2.** **Base Rent**. Tenant shall continue to pay Base Rent for the Premises (including any Additional TI Allowance which is being amortized and paid for pursuant to Section 4(a) of the Lease) as provided for in the Lease through June 30, 2012. Commencing on July 1, 2012, Tenant shall pay Base Rent for the Premises in the amount of $32.00 per rentable square foot per year. Base Rent shall be increased on July 1, 2013, and on each subsequent July 1st during the Base Term (each an "**Adjustment Date**") by multiplying the Base Rent payable immediately before such Adjustment Date by 3% and adding the resulting amount to the Base Rent payable immediately before such Adjustment Date. Base Rent, as so adjusted, shall thereafter be due as provided herein. Base Rent adjustments for any fractional calendar month shall be prorated.

**3.** **Tenant Improvements**.

(a) Following the mutual execution and delivery of this First Amendment by the parties, Landlord shall, pursuant to the terms of the Work Letter attached to this First Amendment as **Exhibit A**, construct Tenant Improvements (as defined in the Work Letter ) in the Premises.

(b) Tenant acknowledges that Landlord shall require access to the Premises after the mutual execution and delivery of this First Amendment by the parties in order to complete Landlord's Work (as defined in the Work Letter), and Landlord acknowledges that, among other things, Tenant conducts research in the Premises that involves processes which cannot be interrupted once started. Accordingly, Landlord and Tenant agree to reasonably and in good faith cooperate with each other to develop a schedule for Landlord's Work, which will identify when Landlord's contractors and agents will perform work in the Premises and when any interruption to service to the Premises will occur (the "**Schedule**"). Except in an emergency, neither Landlord nor any contractor or agent of Landlord shall enter the Premises to perform any work without Tenant's prior consent after not less than 48 hours advance written notice. Any amendment to or deviation from the Schedule must be approved in writing by both parties.

(c) Landlord and its contractors and agents shall have the right to enter the Premises to complete Landlord's Work as provided herein, and Tenant shall cooperate with Landlord in connection with the same; provided that Landlord's Work shall be conducted at all times in such manner so as not to interfere with Tenant's use and occupancy of the Premises except as set forth in the Schedule or otherwise approved in advance in writing by Tenant.

**4.** **Right to Expand**. For the avoidance of any doubt, Tenant retains its right under the Lease to expand the Premises pursuant to the terms of Section 39 of the Lease.

**5.** **Right to Extend Term**. For the avoidance of any doubt, Tenant retains its right under the Lease to extend the term of the Lease pursuant to the terms of Section 40 of the Lease.

**6.** **Termination Right**. Section 42 of the Lease is hereby deleted in its entirety and replaced with the following:

"42. **Termination Right**. If Tenant is acquired by or merged with another company as part of a bona fide transaction and not primarily to trigger Tenant's rights under this Section 42, Tenant shall have the right to terminate this Lease ("**Early Termination Right**") any time after June 30, 2016, and prior to the expiration of the Base Term, so long as Tenant delivers to Landlord a written notice ("**Termination Notice**"), of its intent to exercise its Early Termination Right at least 8 months prior to the date upon which Tenant desires to terminate this Lease ("**Early Termination Date**"), which Termination Notice shall state the Early Termination Date. Upon receipt of the Early Termination Notice, Landlord shall notify Tenant of the sum of, as calculated by Landlord, (i) the unamortized Tenant Improvements (as defined in the Work Letter), (ii) the unamortized portion of the leasing commissions paid by Landlord to Jones Lang LaSalle with respect to this First Amendment, (iii) the unamortized value of any free rent accrued up to and through the Early Termination Date, with (i), (ii) and (iii) all fully amortized with 8% interest over the Base Term, plus (iv) 6 months of Base Rent that would otherwise have been due following the Early Termination Date had Tenant not exercised the Early Termination Right (collectively, the "**Early Termination Payment**"). Tenant shall pay the Early Termination Payment to Landlord within 10 business days after receipt of notice of such amount from Landlord. If Tenant timely and properly exercises the Early Termination Right and pays the Early Termination Payment, Tenant shall vacate the Premises and deliver possession thereof to Landlord in the condition required by the terms of this Lease on or before the Early Termination Date and Tenant shall have no further obligations under this Lease except for those accruing prior to the Early Termination Date and those which, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease. If Tenant fails to comply with the notice or payment provisions of this Section 42, Tenant shall, at Landlord's option, be deemed to have forfeited Tenant's Early Termination Right."

**7.** **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with the transaction reflected in this First Amendment and that no Broker brought about this transaction, other than Jones Lang LaSalle, who represented Tenant in this transaction. Landlord and Tenant each hereby agrees to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this First Amendment, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.

**8.** **Notification of Asbestos**.

(a) Notification of Asbestos. Landlord hereby notifies Tenant of the presence of asbestos-containing materials ("**ACMs**") and/or presumed asbestos-containing materials ("**PACMs**") within or about the Building in the location identified in **Exhibit B**.

(b) Tenant Acknowledgement. Tenant hereby acknowledges receipt of the notification in paragraph (a) of this Section 8 and understands that the purpose of such notification is to make Tenant and any agents, employees, and contractors of Tenant aware of the presence of ACMs and/or PACMs within or about the Building in order to avoid or minimize any damage to or disturbance of such ACMs and/or PACMs.

_____
Tenant's Initials

(c) Acknowledgement from Contractors/Employees. Tenant shall give Landlord at least 14 days' prior written notice before conducting, authorizing or permitting any of the activities listed below within or about the Building, and before soliciting bids from any person to perform such services. Such notice shall identify or describe the proposed scope, location, date and time of such activities and the name, address and telephone number of each person who may be conducting such activities. Thereafter, Tenant shall grant Landlord the right to enter the Premises, to determine whether any ACMs or PACMs will be disturbed in connection with such activities; provided that Landlord shall schedule such entry with Tenant at least 48 hours in advance. Tenant shall not solicit bids from any person for the performance of such activities without Landlord's prior written approval. Upon Landlord's request, Tenant shall deliver to Landlord a copy of a signed acknowledgement from any contractor, agent, or employee of Tenant acknowledging receipt of information describing the presence of ACMs and/or PACMs within or about the Building in the locations identified in **Exhibit C** prior to the commencement of such activities. Nothing in this Section 8 shall be deemed to expand Tenant's rights under the Lease or this Consent or otherwise to conduct, authorize or permit any such activities.

(i) Removal of thermal system insulation ("**TSI**") and surfacing ACMs and PACMs (i.e., sprayed-on or troweled-on material, e.g., textured ceiling paint or fireproofing material);

(ii) Removal of ACMs or PACMs that are not TSI or surfacing ACMs or PACMs; or

(iii) Repair and maintenance of operations that are likely to disturb ACMs or PACMs.

**9. Miscellaneous**.

(a) This First Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This First Amendment may be amended only by an agreement in writing, signed by the parties hereto.

(b) This First Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

(c) This First Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this First Amendment attached thereto.

(d) Except as amended and/or modified by this First Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this First Amendment. In the event of any conflict between the provisions of this First Amendment and the provisions of the Lease, the provisions of this First Amendment shall prevail. Whether or not specifically amended by this First Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this First Amendment.

**[Signatures are on the next page.]**

**IN WITNESS WHEREOF**, the parties hereto have executed this First Amendment as of the day and year first above written.

**LANDLORD:**

**ALEXANDRIA REAL ESTATE EQUITIES, INC.**,
a Maryland corporation

By: /s/ Jackie Clem
Its: VP Real Estate Legal Affairs

**TENANT:**

**THERACLONE SCIENCES, INC.**,
a Delaware corporation

By: /s/ [illegible]
Its: CFO

**EXHIBIT A**

**Work Letter**

THIS WORK LETTER dated October 11, 2011 (this "**Work Letter**") is made and entered into by and between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), **THERACLONE SCIENCES, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease Agreement dated as of May 24, 2007, as amended by that certain First Amendment to Lease dated as of October 11, 2011 ("**First Amendment**")(as amended, the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements**.

(a) **Tenant's Authorized Representative**. Tenant designates Russ Hawkinson and Tenant's project manager, to be identified in writing to Landlord by Tenant (either such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change either Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant's Representative shall be authorized to direct Landlord's contractors in the performance of Landlord's Work (as hereinafter defined).

(b) **Landlord's Authorized Representative**. Landlord designates Gary Carlson and Tim McBride (either such individual acting, alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any Communication from or on behalf of Landlord in connection with this Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord's Representative shall be the sole persons authorized to direct Landlord's contractors in the performance of Landlord's Work.

(c) **Architects, Consultants and Contractors**. Landlord and Tenant hereby acknowledge and agree that: (i) the general contractor and any subcontractors for the Tenant Improvements shall be selected by Landlord, subject to Tenant's approval, which approval shall not be unreasonably withheld, conditioned or delayed, and (ii) SABA Architects shall be the architect (the "**TI Architect**") for the Tenant Improvements.

2. **Tenant Improvements**.

(a) **Tenant Improvements Defined**. As used herein, "**Tenant Improvements**" shall mean the improvements, which shall be of a fixed and permanent nature as shown on the TI Construction Drawings, as defined in Section 2(c) below. Other than Landlord's Work (as defined in Section 3(a) below, Landlord shall not have any obligation whatsoever with respect to the finishing of the Premises for Tenant's use and occupancy.

(b) **Tenant's Space Plan**. Landlord and Tenant acknowledge and agree that the plan dated July 14, 2011, prepared by the TI Architect attached to this Work Letter as **Exhibit 1** (the "**Space Plan**") has been approved by both Landlord and Tenant.

(c) **Tenant Improvement Budget**. Landlord and Tenant agree to reasonably and in good faith cooperate with each other to develop a budget setting forth costs and expenses incurred or estimated to be incurred in completing the Tenant Improvements, including contingency reserves (the "**Budget**"), which shall contain a detailed estimate, by category, of (i) all indirect costs, such as engineering and architect's fees and other costs, and (ii) all direct construction costs required to complete the Tenant Improvements, such as construction labor, materials and supplies, and other costs. In developing the Budget, the parties agree to start with the Mid-Range Concept Budget set forth in the Executive Summary prepared by BNBuilders dated July 15, 2011.

(d) **Changes in Space Plan**. Landlord and Tenant acknowledge and agree that any changes to the Space Plan requested by Tenant shall constitute a Change Request the cost of which changes shall be paid for by Tenant if the cost of all Change Requests requested by Tenant cause the cost of Landlord's .Work to exceed the amount set forth in the Budget (including contingencies).

(e) **Working Drawings**. Landlord shall cause the TI Architect to prepare and deliver to Tenant for review and comment construction plans, specifications and drawings for the Tenant Improvements ("**TI Construction Drawings**"), which TI Construction Drawings shall be prepared substantially in accordance with the Space Plan. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Teriaqs requirements for the Tenant Improvements. Tenant shall deliver its written comments on the TI Construction Drawings to Landlord not later than 5 business days after Tenant's receipt of the same; provided, however, that Tenant may not disapprove any matter that is substantially in accordance with the Space Plan without submitting a Change Request. Landlord and the TI Architect shall consider all such comments in good faith and shall, within 5 days after receipt, notify Tenant how Landlord proposes to respond to such comments. Any disputes in connection with such comments shall be resolved in accordance with Section 2(f), hereof. Provided that the design reflected in the TI Construction Drawings is substantially in accordance with the Space Plan, Tenant shall approve the TI Construction Drawings submitted by Landlord, unless Tenant submits a Change Request. Once approved by Tenant, subject to the provisions of Section 4 below, Landlord shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(b) below).

(f) **Approval and Completion**. Upon any dispute regarding the design of the Tenant Improvements, which is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided that (i) Tenant acts reasonably and such final decision is a compromise between Landlord's and Tenant's positions with respect to such dispute, (ii) all costs and expenses resulting from any such decision by Tenant that exceed the Budget shall be payable by Tenant, and (iii) Tenant's decision will not affect the structural components of the Building or any Building systems. Any changes to the TI Construction Drawings following Landlord's and Tenant's approval of same requested by Tenant shall be processed as provided in Section 4 below.

3. **Performance of Landlord's Work**.

(a) **Definition of Landlord's Work**. As used herein, "**Landlord's Work**" shall mean the work of constructing the Tenant Improvements.

(b) **Commencement and Permitting**. Landlord shall commence construction of the Tenant Improvements upon obtaining a building permit (the "**TI Permit**") authorizing the construction of the Tenant Improvements in accordance with the TI Construction Drawings approved by Tenant. The cost of obtaining the TI Permit shall be payable by Landlord. Tenant shall assist Landlord in obtaining the TI Permit, at Landlord's expense. If any Governmental Authority having jurisdiction over the construction of Landlord's Work or any portion thereof shall impose terms or conditions upon the construction thereof that: (i) are inconsistent with Landlord's obligations hereunder in any material respect, (ii) increase the cost of constructing Landlord's Work beyond the amount set forth in the Budget (including contingencies), or (iii) will delay the construction of Landlord's Work beyond the time set forth in the Schedule, Landlord and Tenant shall reasonably and in good faith seek means by which to mitigate or eliminate any such adverse terms and conditions.

(c) **Completion of Landlord's Work**. Landlord shall substantially complete or cause to be substantially completed Landlord's Work in a good and workmanlike manner, in accordance with the TI Construction Drawings and the TI Permit subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature that do not interfere with the use of the Premises ("**Substantial Completion**" or "**Substantially Complete**"). Upon Substantial Completion of Landlord's Work, Landlord shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comply with any Change Request by Tenant; (iii) to comport with good design, engineering, and construction practices that are not material; or (iv) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord's Work; provided that Tenant shall not be required to pay for any Minor Variations other than Change Requests, as set forth herein, and such Minor Variations do not materially affect Tenant's ability to use and occupy the Premises as contemplated in the Space Plan.

(d) **Selection of Materials**. Where more than one type of material or structure is specified on the TI Construction Drawings approved by Landlord and Tenant, the option will be selected at Landlord's sole and absolute subjective discretion. As to all building materials and equipment that Landlord is obligated to supply under the TI Construction Drawings approved by Landlord and Tenant, Landlord shall select the manufacturer thereof in its sole and absolute subjective discretion.

(e) **Acceptance of Landlord's Work**. When Landlord's Work is Substantially Complete, subject to the remaining terms and provisions of this Section 3(e), Tenant shall accept Landlord's Work. Tenant's acceptance of Landlord's Work shall not constitute a waiver of: (i) any warranty with respect to workmanship or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of Landlord's Work with applicable Legal Requirements, or (iii) any claim that Landlord's Work was not completed substantially in accordance with the TI Construction. Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a "**Construction Defect**"). Tenant shall have one year after Substantial Completion within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. Notwithstanding the foregoing, Landlord shall not be in default under the Lease if the applicable contractor, despite Landlord's reasonable efforts, fails to remedy such Construction Defect within such 30-day period. Thereafter, Landlord shall, however, be required use reasonable and diligent efforts to cause the Construction Defect to be remedied within a reasonable period of time.

(f) **Warranties**. Tenant shall be entitled to receive the benefit of all construction warranties relating to the Tenant Improvements and manufacturer's equipment warranties relating to equipment installed in the Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely by Tenant.

(g) **Punch List Items**. Landlord shall promptly undertake and complete, or cause to be completed, all punch list items.

4. **Changes**. Any changes requested by Tenant to the Tenant Improvements after approval of the TI Construction Drawings and the Budget by Landlord and Tenant shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord and the TI Architect, such approval not to be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Request For Changes**. If Tenant shall request changes to the Tenant Improvements ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall, before proceeding with any Change, use commercially reasonable efforts to respond to Tenant as soon as is reasonably possible with an estimate of: (i) the time it will take, and (ii) the architectural and engineering fees and costs that will be incurred, to analyze such Change Request (which costs shall be paid by Tenant to the extent the analysis is authorized by Tenant and the costs are actually incurred by Landlord, whether or not such Change Request is implemented). Tenant shall notify Landlord within 2 business days after receipt of Landlord's estimate whether Tenant desires to have Landlord proceed with analysis of the Change Request. If Tenant notifies Landlord to proceed, Landlord shall thereafter submit to Tenant in writing, within 5 business days of receipt of the notification to proceed (or such longer period of time as is reasonably required depending on the extent of the Change Request), an analysis of the additional cost or savings in relation to the Budget, including, without limitation, architectural and engineering costs and the period of time, if any, that the Change will extend the date on which Landlord's Work will be Substantially Complete. Any such delay in the completion of Landlord's Work caused by a Change, including any suspension of Landlord's Work while any such Change is being evaluated and/or designed, shall be a delay caused by Tenant.

(b) **Implementation of Changes**. If Tenant approves in writing the cost or savings and the estimated extension in the time for completion of Landlord's Work, if any; Landlord shall cause the approved Change to be instituted. Tenant shall be billed for actual Excess TI Costs by Landlord upon Landlord's receipt of invoices(s), and Tenant shall be required to pay the applicable Excess TI Costs to Landlord within 3 business days after receipt of such invoices (along with reasonable back-up information to support the same). Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the TI Architect's determination of the amount of delay caused by Tenant in connection with such Change shall be final and binding on Landlord and Tenant.

5. **Costs**.

(a) **TI Costs**. Landlord shall be responsible for the payment of design, permits and construction costs in connection with the construction of the Tenant Improvements, including, without limitation, the cost of preparing the TI Construction Drawings and the Space Plan and Landlord's out-of-pocket expenses (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, the TI Costs shall not include the purchase of any furniture, personal property or other non-Building system materials or equipment, including, but not limited to, Tenant's voice or data cabling, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Tenant Improvements.

(b) **Excess TI Costs**. Notwithstanding anything to the contrary contained herein, Tenant acknowledges and agrees that Landlord shall have no responsibility for any costs arising from or related to Tenant's changes to the TI Construction Drawings, delays caused by Tenant, the cost of Changes and Change Requests if the net effect is to increase the cost of the Tenant Improvements over the amount in the Budget, including contingencies (collectively, "**Excess TI Costs**"). Tenant shall pay for such Excess TI Costs as provided for in Section 4(b) above. If Tenant fails to pay any Excess TI Costs to Landlord as and when due under Section 4(b), Landlord shall have all of the rights and remedies set forth in the Lease for nonpayment of Rent (including, but not limited to, the right to interest at the Default Rate and the right to assess a late charge). For purposes of any litigation instituted with regard to such amounts, those amounts will be deemed Rent under the Lease.

(c) **Tenant's Access Rights**. Landlord and Tenant acknowledge that prior to the date of this Work Letter, Tenant has occupied the Premises pursuant to the terms of the Lease. Subject to applicable Legal Requirements, Tenant shall have the right to continue to occupy those portions of the Premises which are not subject to the construction of the Tenant Improvements, at Tenant's sole risk and expense, during the construction of the Tenant Improvements, provided that Landlord and its contractors and agents shall comply with Section 3 of the First Amendment and shall use reasonable efforts to construct the Tenant Improvements in such manner so as not to unreasonably interfere with Tenant's access to or operations on the portions of the Premises so occupied by Tenant. Tenant shall cooperate with Landlord in connection with the performance of the Tenant Improvements. Tenant acknowledges that the Tenant Improvements may adversely affect Tenant's use and occupancy of the Premises during the construction of the Tenant improvements.

(d) **No Interference**. Neither Tenant nor any Tenant Party (as defined in the Lease) shall interfere with the performance of Landlord's Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to exclude Tenant and any Tenant Party from the portions of the Premises subject to construction of the Tenant Improvements from time to time until Substantial Completion of Landlord's Work.

6. **Miscellaneous**.

(a) Consents. Whenever consent or approval of either party is required under. this Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

(b) Modification. No modification, waiver or amendment of this Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

**Exhibit 1 to Work Letter**

**Space Plan**

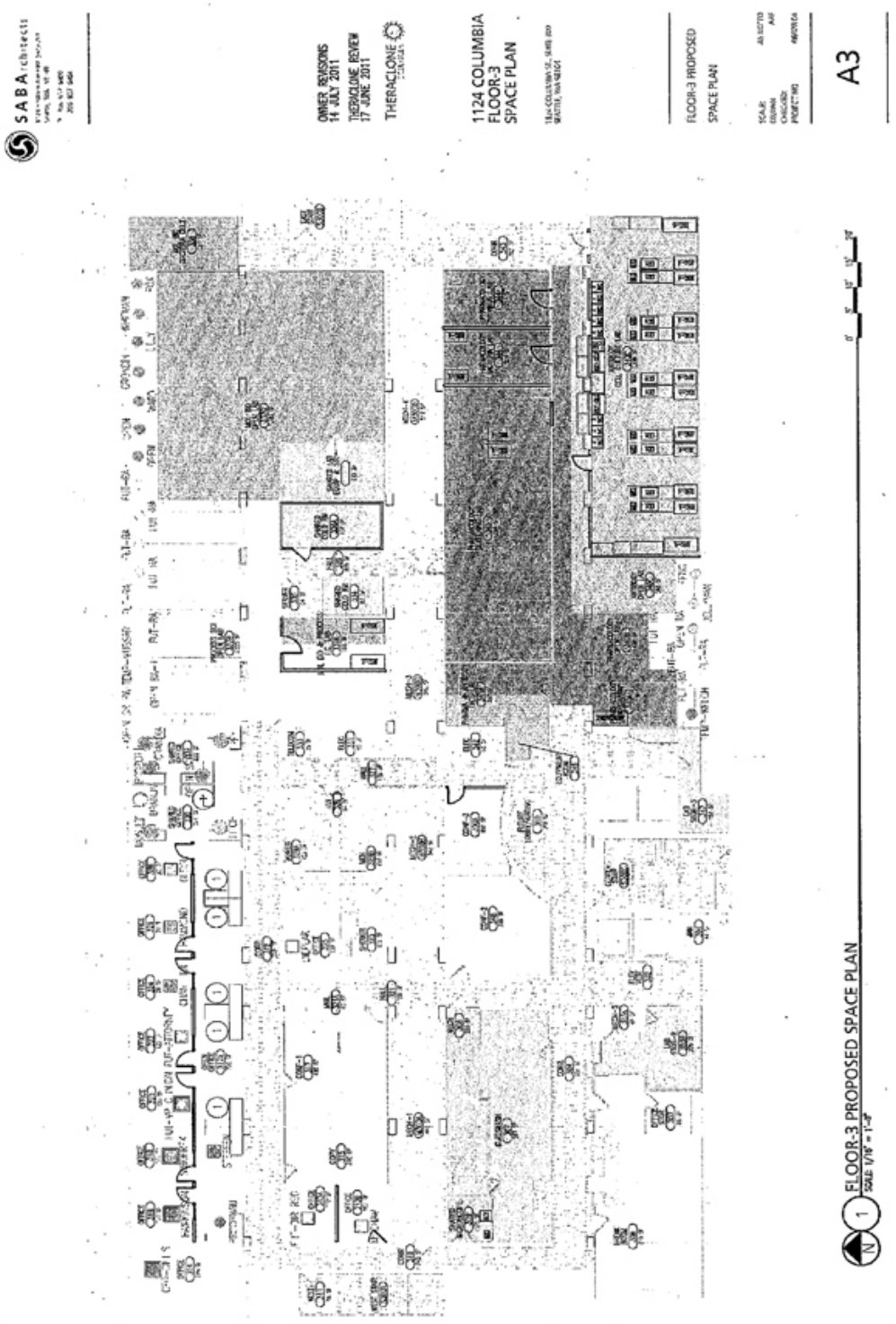


**EXHIBIT B**

**Asbestos Disclosure**

NOTIFICATION OF THE PRESENCE OF ASBESTOS CONTAINING MATERIALS

**1124 Columbia Street, Seattle, Washington**

This notification provides certain information about asbestos within or about the Building. Historically, asbestos was commonly used in building products used in the construction of buildings across the country. Asbestos-containing building products were used because they are fire-resistant and provide good noise and temperature insulation. Because of their prevalence, asbestos-containing materials, or ACMs, are still sometimes found in buildings today.

Asbestos surveys of the Building have determined that ACMs and/or materials that might contain ACMs, referred to as presumed asbestos-containing materials or PACMs, are present within or about the Building at several locations. The surveys found ACMs and/or PACMs of the types, in the amounts and at the locations indicated in Table 1 attached hereto. ACMs located in the Building include two types of floor tiles and the mastic beneath such tiles. Roofing materials were not sampled, and are considered to be PACMs

Because ACMs and PACMs are present and may continue to be present within or about the Building, we have hired an independent environmental consulting firm to prepare an operations and maintenance program ("**O&M Program**"). The O&M Program is designed to minimize the potential of any harmful asbestos exposure to any person within or about the Building. The O&M Program includes a description of work methods to be taken in order to maintain any ACMs or PACMs within or about the Building in good condition and to prevent any significant disturbance of such ACMs or PACMs. Appropriate personnel receive regular periodic training on how to properly administer the O&M Program.

The O&M Program describes the risks associated with asbestos exposure and how to prevent such exposure through appropriate work practices. ACMs and PACMs generally are not thought to be a threat to human health unless asbestos fibers are released into the air and inhaled. This does not typically occur unless (1) the ACMs are in a deteriorating condition, or (2) the ACMs have been significantly disturbed (such as through abrasive cleaning, or maintenance or renovation activities). If inhaled, asbestos fibers can accumulate in the lungs and, as exposure increases, the risk of disease (such as asbestosis or cancer) increases. However, measures to minimize exposure and consequently minimize the accumulation of asbestos fibers, reduces the risks of adverse health effects.

The O&M Program describes a number of activities that should be avoided in order to prevent a release of asbestos fibers. In particular, you should be aware that some of the activities which may present a health risk include moving, drilling, boring, or otherwise disturbing ACMs. Consequently, such activities should not be attempted by any person not qualified to handle ACMs.

The O&M Program is available for review during regular business hours at our office located at 1616 Eastlake Avenue East, Suite 100, Seattle, Washington 98102.

**TABLE 1**
**RESULTS OF ASBESTOS SURVEY**
**1124 COLUMBIA STREET**
**SEATTLE, WASHINGTON**

| SAMPLE NUMBER | MATERIAL DESCRIPTION | MATERIAL LOCATION | MATERIAL CONDITION | ANALYTICAL RESULT | ESTIMATED QUANTITY |
|---|---|---|---|---|---|
| 1 to 3 | 12” off-white floor tile and mastic | Basement, south-center and southeast hallway areas | Good to fair | Tile – Trace (<1%) Mastic – 3% | 500 SF |
| 4 to 6 | 2’ x 2’ ceiling tile | Basement, hallways | Good | ND | N/A |
| 7 to 9 | Pipe insulation | Basement mechanical room | Good to poor | ND | N/A |
| 10 to 12 | Tan vinyl sheet flooring | Basement, rooms 28A and 29 | Good | ND | N/A |
| 13 to 19 | Drywall/joint compound | Basement, throughout walls; 5th floor, southwest rooms walls and ceilings; 6th and 7th floors, throughout walls and restroom ceilings | Good | Trace (<1%) | N/A |
| 20 to 22 | 2’ x 2’ ceiling tile | 6th and 7th floors, throughout hallways, offices, and portions of laboratories | Good | ND | N/A |
| 23 to 25 | Cove base and mastic | Basement, 5th, 6th and 7th floors, base of walls | Good to fair | ND | N/A |
| 26 to 28 | 12” off-white floor tile and mastic | 6th and 7th floors, throughout hallways, restrooms, southern stairwell landings, and majority of laboratories (see Figures 1A and 2A for locations) | Good | Tile – Trace (<1%) Mastic – 3% | 30,000 SF |
| N/A | Roofing materials | Throughout roof | Unknown | Assumed[1] | 17,000 SF |

ND – not detected N/A – not applicable SF – square feet

1 – Roofing materials were not sampled and are assumed to contain asbestos.

**SECOND AMENDMENT TO LEASE**

THIS SECOND AMENDMENT TO LEASE (this "**Second Amendment**") is made as of October 12, 2011, by and between **ALEXANDRIA REAL ESTATE EQUITIES, INC.**, a Maryland corporation ("**Landlord**"), and **THERACLONE SCIENCES, INC.**, a Delaware corporation ("**Tenant**").

**RECITALS**

**A.** Landlord and Tenant are now parties to that certain Lease Agreement dated as of May 24, 2007, as amended by that certain First Amendment to Lease dated October 11, 2011 (the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 24,346 rentable square feet ("**Premises**") in a building located at 1124 Columbia Street, Seattle, Washington. The Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

**B.** Landlord and Tenant' desire, subject to the terms and conditions set forth herein, to amend the Lease to, among other things, provide for certain abated Base Rent during the Base Term of the Lease.

**NOW, THEREFORE,** in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. **Base Rent**. Tenant shall not be required to pay monthly Base Rent for the Premises during the following periods (the "**Base Rent Abatement Period**"):

| Months Abated | Total Months |
|---|---|
| January 2012 – June 2012 | 6 months |
| January 2013 – March 2013 | 3 months |
| January 2014 – February 2014 | 2 months |
| January 2015 – February 2015 | 2 months |
| January 2016 – February 2016 | 2 months |
| Total | 15 months |

Prior to and after the Base Rent Abatement Period, Tenant shall be required to pay monthly Base Rent as provided for in the Lease. Notwithstanding the foregoing, if a Default exists during any Base Rent Abatement Period, Tenant shall not have the right to abate Base Rent during the applicable Base Rent Abatement Period.

2. **Confidentiality**. Tenant hereby agrees that, except as otherwise provided herein, (i) Tenant shall hold the Confidential Information (as defined below) in strict confidence, and (ii) Tenant shall not disclose the Confidential Information to any third party, except as authorized in writing by Landlord or as required by Legal Requirements. Tenant shall use the same degree of care to prevent the misuse of the Confidential Information as Tenant uses with respect to its own proprietary information, but in no event less than reasonable care. Tenant shall immediately notify Landlord in the event of any unauthorized disclosure of Confidential Information. "**Confidential Information**" shall mean all of the terms, covenants, conditions or agreements set forth in this Second Amendment.

3. **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with the transaction reflected in this Second Amendment and that no Broker brought about this transaction. Landlord and Tenant each hereby agrees to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any, named in this Second Amendment, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.

4. **Miscellaneous**.

(a) This Second Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Second Amendment may be amended only by an agreement in writing, signed by the parties hereto.

(b) This Second Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

(c) This Second Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Second Amendment attached thereto.

(d) Except as amended and/or modified by this Second Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Second Amendment. In the event of any conflict between the provisions of this Second Amendment and the provisions of the Lease, the provisions of this Second Amendment shall prevail. Whether or not specifically amended by this Second Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Second Amendment.

**[Signatures are on the next page.]**

**IN WITNESS WHEREOF**, the parties hereto have executed this Second Amendment as of the day and year first above written.

**LANDLORD:**

**ALEXANDRIA REAL ESTATE EQUITIES, INC.**,
a Maryland corporation

By: /s/ Jackie Clem
Its: VP Real Estate Legal Affairs

**TENANT:**

**THERACLONE SCIENCES, INC.**,
a Delaware corporation

By: /s/ [illegible]
Its: CFO

**EXHIBIT 10.65**

[***]Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Confidential
EXECUTION VERSION

# DEVELOPMENT AND LICENSE AGREEMENT

This DEVELOPMENT AND LICENSE AGREEMENT (together with the exhibits hereto, the "**Agreement**") is entered into as of March 11, 2010 (the "**Effective Date**") by and between Theraclone Sciences, Inc., a corporation organized and existing under the laws of the State of Delaware, USA and having its principal office at 1124 Columbia Street, Suite 300, Seattle, Washington, 98104, USA ("**Theraclone**") and Zenyaku Kogyo Co., Ltd., a corporation organized and existing under the laws of Japan and having its principal office at 6-15 Otsuka, 5-Chome, Bunkyo-Ku, Tokyo 112-8650, Japan ("**ZKC**" or "**Zenyaku**").

## RECITALS

WHEREAS, Theraclone has scientific expertise, proprietary information and biological materials related to identifying, cloning, and characterizing human monoclonal antibodies from human tissues;

WHEREAS, ZKC has expertise in developing and commercializing prophylactic and therapeutic products;

WHEREAS, Theraclone and ZKC entered into the Exclusive Option Agreement dated September 29, 2009 (the "**Option Agreement**"), ZKC has elected to exercise the option set forth in the Option Agreement, and the parties desire to further collaborate in the development of prophylactic and therapeutic products for the prevention and treatment of influenza infection, as well as companion diagnostics to such prophylactic and therapeutic products;

WHEREAS, in connection with the Collaboration, Theraclone has agreed to license to ZKC in the territory described below certain intellectual property rights related to the Licensed Products and Licensed Antibodies (as both terms are defined below), all as set forth in and subject to the terms and conditions of this Agreement; and

WHEREAS, in addition, Theraclone and Zenyaku wish to provide for a certain right of first refusal for Zenyaku for certain peptide mimetics operating via the same targets as those of the Licensed Antibodies, as more particularly provided for below.

NOW, THEREFORE, for and in consideration of the mutual observance of the covenants hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

**AGREEMENT**

**1. Definitions.**

All references to particular Exhibits, Articles and Sections shall mean the Exhibits to, and Articles and Sections of, this Agreement, unless otherwise specified. References to this "Agreement" include the Exhibits. For the purposes of this Agreement, the following words and phrases shall have the following meanings and derivative forms (e.g., the singular shall be interpreted to be one of the items defined in the plural and *vice versa*; provided, however, if a word or phrase does not have its first letter(s) capitalized then it shall not have the following meaning) of them shall be interpreted accordingly:

"**Additional Technology**" shall have the meaning set forth in Section 4.1(c).

"**Affiliate**" of an entity that is a party to this Agreement means, for so long as one of the following relationships is maintained, any corporation or other business entity owned by, owning, or under common ownership with such party to this Agreement to the extent of at least fifty percent (50%) of the equity (or such lesser percentage that is the maximum allowed to be owned by a foreign corporation in a particular jurisdiction) having the power to vote on or direct the affairs of the entity and any person, firm, partnership, corporation or other entity actually controlled by, controlling or under common control with a party to this Agreement, where "control" means majority ownership or the actual power to elect or direct the management or policies of the entity, whether by law, contract or otherwise.

"**BLA**" shall mean Biologics License Application.

"**Clinical-and-Beyond Licensed Antibodies**" shall mean all Licensed Antibodies that have actually been in clinical development and are actually commercialized, in each case as therapeutics and/or prophylactic products under this Agreement.

"**Clinical Regulatory Filings**" means data, filings or materials relating to Licensed Antibody or Licensed Product submitted to the United States Food and Drug Administration or other applicable Regulatory Authorities, including (a) data derived from clinical trials, and (b) data, filings or materials relating to or contained in any CMC or DMF.

"**Collaboration**" shall mean the joint collaboration of Theraclone and ZKC pursuant to the terms of this Agreement.

"**Commercial Launch**" shall mean the first revenue-generating sale of Licensed Product after Regulatory Approval (determined on a Licensed Product-by-Licensed Product basis) in the Territory by ZKC or an Affiliate of ZKC or a Sublicensee of ZKC.

"**Commercially Reasonable Efforts**" shall mean the level of efforts required to carry out a task in a diligent and sustained manner without undue interruption, pause or delay; which level is at least commensurate with the level of efforts that a biopharmaceutical company of similar size and resources would devote to a product of similar potential and having similar commercial and scientific advantages and disadvantages resulting from the company's own research efforts, taking into account the product's safety and efficacy; the competitiveness of alternative products; the product's proprietary position; pricing; reimbursement; scientific, technical and regulatory matters; and all other relevant commercial factors.

"**Control**" shall mean, with respect to any Know-How, Patent, or other materials as set forth herein, possession (other than pursuant to this Agreement) by a party, directly or through an Affiliate controlled by such party (whether by ownership or license) of the ability to grant a license, sublicense, or other rights as provided for in this Agreement without violating the terms of any written agreement with any Third Party which written agreement exists as of the Effective Date, or, with respect to Third-Party Know-How, Patents or other materials newly in-licensed after the Effective Date, which agreement was entered into in order to obtain rights to such Third-Party Know-How, Patents or other materials newly in-licensed after the Effective Date (but excluding contracts with Other Licensees and Sublicensees, because contracts with Other Licensees and Sublicensees must be consistent with the terms and conditions of this Agreement and in particular must meet the requirements set forth in Sections 4.4 and 4.6 of this Agreement). This definition of "Control" shall not be read to diminish Theraclone's obligations to obtain rights from Other Licensees nor Zenyaku's obligations to obtain rights from Sublicensees as provided for elsewhere in this Agreement.

"**Cover**" shall mean, with respect to a particular item and a particular Patent, that such Patent claims or covers (a) the composition of such item, any of its ingredients or formulations or any product containing or that is made using such item (by virtue of such product containing or being made using such item); (b) a method of making or using any of the foregoing things referred to in (a); and/or (c) an item used or present in the manufacture of any of the foregoing things referred to in (a) (for example, with respect to a biologic, any vector, plasmid or cell line used to manufacture such product or item or any ingredient in either of them).

"**Damages**" shall have the meaning set forth in Section 16.1.

"**Development Plans**" shall have the meaning set forth in Section 2.1.

"**Diagnostic Product**" shall mean any Licensed Product that is not a pharmaceutical or biopharmaceutical composition.

"**Distributor**" shall mean any Third Party that purchases Licensed Product from ZKC, its Affiliates or Sublicensees for further resale, which purchaser (i) pays ZKC, its Affiliates or Sublicensee a transfer price (established at arms-length and in accordance with generally accepted business practices in the industry in the Territory) for such Licensed Products that is independent of the price at which such purchaser resells Licensed Products (i.e., such purchaser does not pay net sales royalties to ZKC, its Affiliates or Sublicensees measured off of the resale price by such purchaser) and (ii) does not pay ZKC any other amounts or consideration in any way related to the Licensed Products.

"**Dollars**" or "**$**" shall mean U.S. Dollars.

"**General Diagnostics**" shall mean any and all diagnostic uses and purposes, other than Therapeutic Drug Monitoring.

"**Generic Version**" shall mean a product that has been Regulatorily Approved for sale based on a demonstration of biosimilarity or bio-equivalence to a Licensed Product, including all products that actually do rely on or reference or refer to the efficacy or approval data of the Licensed Product marketed by Zenyaku (or its Affiliate or Sublicensee). For clarity, a Generic Version must compete for binding with a Licensed Antibody from a Licensed Product and the amino acid sequence of the Generic Version must be identical to the amino acid sequence of the Licensed Antibody.

"**HA**" shall mean any hemagglutinin as expressed on any Influenza Virus.

"**ICH**" shall mean The International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use.

"**Influenza Virus**" shall mean any of the influenza viruses in the family Orthomyxoviridae, including influenza A, influenza B, and influenza C.

"**Joint Commercialization Committee**" or "**JCC**" shall have the meaning set forth in Section 3.1(b).

"**Joint Inventions**" shall have the meaning set forth in Section 9.

"**Joint Patents**" shall mean all Patents that claim Joint Inventions. In no event shall Joint Patents include or be deemed to include Theraclone Patents or ZKC Patents.

"**Joint Steering Committee**" or "**JSC**" shall have the meaning set forth in Section 3.1(a).

"**Know-How**" shall mean all technical information, materials and know-how, including inventions, discoveries, trade secrets, specifications, instructions, processes, formulae, materials (including cell lines, vectors, plasmids, nucleic acids, strains, samples, analytical tools, libraries, clones and the like), methods, protocols, and expertise and other technology applicable to formulations, compositions or products or to their manufacture, development, registration, use or marketing or to methods of assaying or testing them or processes for their manufacture, formulations containing them or compositions incorporating or comprising them, and including all biological, biochemical, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, safety, quality control, manufacturing, assay, preclinical and clinical data, instructions, processes, formula, and expertise, other than that which is set forth in a published Patent.

"**Licensed Antibodies**" shall mean (a) the human monoclonal antibodies identified in Exhibit A attached hereto, and (b) all antibodies directed to, raised against or that bind to M2e and/or HA discovered by or for Theraclone (or its Affiliate) or the Patents Covering which or Know-How pertaining to which are owned or Controlled by any of the foregoing, in each case at any time (including prior to or as of the Effective Date or at any time during the term of this Agreement). To avoid doubt, the term "antibody" as used in this definition and this Agreement includes both full-length antibodies, fragments thereof (that contain the complementarity-determining region (or "CDR"), and chemically modified versions thereof (including pegylated versions and regardless of whether containing amino acid substitutions)), all of the foregoing whether naturally occurring, artificially produced, raised in an artificial system, or created through modification of an antibody produced in any of the foregoing ways or otherwise.

"**Licensed Field**" shall mean the Licensed Therapeutic/Prophylactic Field and Therapeutic Drug Monitoring.

"**Licensed Product**" shall mean a product that contains one (1) or more Licensed Antibodies.

"**Licensed Therapeutic/Prophylactic Field**" shall mean treatment of and prophylaxis of infection (in humans and animals).

"**License Agreement**" shall mean an agreement or arrangement between Theraclone (or its Affiliate) and any Third Party pursuant to which the Third Party obtains rights of any kind with respect to Licensed Antibody(ies) or Licensed Product(s) in the Licensed Field for the Retained Territory or any subset thereof (including license rights, assignment of intellectual property, covenant not to sue, or an option for any of the foregoing). If an Affiliate that is not 100% owned by Theraclone (or does not 100% own Theraclone) is the marketing party, then such Affiliate is, for purposes of this definition and all contexts where it is used, deemed to be a Third Party.

"**Licensing Proceeds**" shall mean (i) all upfront payments received by Theraclone from a Third Party pursuant to a License Agreement, (ii) all milestone payments received by Theraclone pursuant to such a License Agreement and (iii) all other payments received by Theraclone pursuant to a License Agreement except excluding only: payments for supply of Licensed Product and including in this exception up to a [***] markup on the fully burdened costs of supply for bulk or vialed product (as more fully described in Section 8.1 below) (and any amounts in excess of such [***] markup are specifically included in Licensing Proceeds), royalty payments calculated as a percentage of product sales, payments for equity in Theraclone at then-current fair market value of such equity (specifically excluding the amount of any premiums; the amount of any such premium shall be included in Licensing Proceeds), loans (except to the extent forgiven; all forgiven amounts are included in Licensing Proceeds), bona fide research and development funding at reasonable and customary rates, funding for then-future research and development expenses (including fully loaded costs of personnel), and reimbursement of past or future patent prosecution and maintenance expenses, and reimbursement of other, future (after execution of the applicable License Agreement) costs and expenses.

"**M2e**" shall mean the ectodomain of M2 protein as expressed on Influenza Virus.

"**Net Sales**" shall mean the amount invoiced by ZKC, its Affiliates or its Third Party Sublicensee(s), as applicable, for the sale to a Third Party of a Licensed Product in the Territory, less the following deductions for amounts actually incurred related to such sale and included in the gross amount invoiced: (a) normal, customary trade discounts (including volume discounts), credits, chargebacks, reductions, and rebates; (b) allowances and adjustments for rejections, recalls, outdated products or returns (in each event whether voluntary or required); (c) freight, shipping, insurance, sales, use, excise, value-added, consumption and similar tariffs, taxes or duties imposed on such sale; (d) credits actually given or allowances actually made for wastage replacement, Medicare/Medicaid or other government rebates, indigent patient, compassionate use and similar programs to provide Licensed Product on at-cost (or lower) basis, to the extent actually deducted from the gross amount invoiced and either not required to be paid by or refunded to the customer or other payor; and (e) allowances taken for bad debt and uncollectible accounts. If there is overlap between any of deductions (a) through (e), each individual item shall only be deducted once in each Net Sales calculation.

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"**Net Sales**" amounts shall be determined in accordance with the generally accepted accounting principles commonly employed by ZKC and/or its Affiliates with respect to the country of sales, consistently applied.

"**Net Sales**" shall not include sales of Licensed Product between either ZKC and its Affiliates or between ZKC (and its Affiliates), on the one hand, and Sublicensee(s) on the other hand, unless such Affiliate(s) or Sublicensee(s), as the case may be, do or does not use the quantities of Licensed Product in one of the following ways: for clinical trials, for resale, as marketing samples, for stability studies or other research use, or for indigent patient programs, compassionate use or other charitable purposes.

"**Net Sales**" shall include sales by Zenyaku, its Affiliates and Sublicensees to Distributors (and any other monetary compensation paid by such Distributors to Zenyaku, its Affiliates or Sublicensees), but shall not include amounts invoiced by Distributors to their customers. "Net Sales" shall also include any monetary compensation not invoiced but received and related to the sale of Licensed Products, except to the extent set forth otherwise in this Agreement.

To avoid doubt, "**Net Sales**" shall not include the distribution of Licensed Product for compassionate use, indigent patient programs, use in pre-clinical and clinical trials, or use in research performed in connection with the Development Plans, provided that ZKC does not receive any monetary compensation for such use.

To avoid doubt, "**Net Sales**" shall not include the distribution of samples without charge by ZKC (or its Affiliates or Sublicensees), regardless of the purpose.

"**Other Licensee**" shall mean the Third-Party counterparty to each License Agreement.

"**Other Licensed Antibodies**" shall mean all Licensed Antibodies other than the Clinical-and-Beyond Licensed Antibodies.

"**Other Licensed Antibodies Available For General Diagnostics Licenses**" shall mean Licensed Antibodies which cannot become Clinical-and-Beyond Licensed Antibodies as determined in accordance with the mechanism set forth in Section 3.5 below.

"**Patent**" shall mean any patent application or patent anywhere in the world, including all of the following kinds: provisional, utility, divisional, continuation, continuation-in-part, and substitution applications; and utility, re-issue, re-examination, renewal and extended patents, and patents of addition, and any Supplementary Protection Certificates, restoration of patent terms and other similar rights.

"**Pending Claim**" shall mean, subject in all cases to Section 4.1(h), a claim of an unissued, pending patent application included in the Theraclone Patents, which claim is being prosecuted in good faith and claims a first priority of no more than five (5) years prior to the date on which pendency is determined.

**"Phase I Clinical Trial**" means human clinical trials, the principal purpose of which is preliminary determination of safety and pharmacokinetics in healthy individuals or patients as required by 21 C.F.R. 312.21(a) or similar clinical study in a country other than the USA.

"**Phase II Clinical Trial**" human clinical trials conducted in a limited number of patients for the purpose of preliminary evaluation of clinical efficacy and safety, and/or to obtain an indication of dosage regimen required as more fully defined in 21 C.F.R. 312.21(b) or similar clinical study in a country other than the USA.

"**Phase III Clinical Trial**" means human clinical trials, the principal purpose of which is to establish safety and efficacy in patients with or at risk for the disease being studied as required by 21 C.F.R. 312.21(c) or similar clinical study in a country other than the USA. Phase III shall include any other human clinical trial intended as a pivotal trial for Regulatory Approval purposes whether or not such trial is a traditional Phase III (e.g., a Phase II/II1 clinical trial).

"**Product Inventions**" shall mean any and all patentable inventions that constitute, or that are necessary or useful for the manufacture, development (including testing) or commercialization of, any Licensed Antibodies or Licensed Products, including (a) their composition, (b) any method of manufacturing, using (including methods of administration) or testing (in the case of testing, of or for the presence of) any of the foregoing, and/or (c) any article necessary or useful to practice (including those present during the practice of) any method referred to in clause (b).

"**Regulatory Approval**" means final regulatory approval (including, where applicable, pricing approval in the event that actual approvals do not take place before such approval) required to market a Licensed Product for a disease or condition in accordance with the applicable laws and regulations of a given country or territory.

"**Regulatory Authority(ies)**" shall mean the United States Food and Drug Administration or any successor agency thereto (the "**FDA**") and its applicable foreign counterparts responsible for the review or licensure of Licensed Product(s).

"**Retained Territory**" shall mean worldwide, but excluding the Territory.

"**Returned Royalty Territory**" shall mean China, Hong Kong, India, South Korea, Taiwan, Indonesia, Thailand, the Philippines, Malaysia, Singapore and Vietnam.

"**Royalty Term**" shall have the meaning set forth in Section 5.8.

"**Safety Data**" means adverse event information and other information (if any) required by one (1) or more Regulatory Authorities to be reported to such Regulatory Authorities under applicable laws.

"**Sublicense Agreement**" or "**Sublicensing Agreement**" shall mean a written sublicense agreement between ZKC (or its Affiliate) and a Third Party pursuant to which ZKC grants to the Third Party rights to practice under the Theraclone Patents, the Joint Patents, and/or the Theraclone Know-How rights granted to ZKC in Section 4.1, to research, develop, use, have used, sell, offer for sale, have sold, keep and/or import the Licensed Product in the Licensed Field in the Territory. If an Affiliate that is not 100% owned by ZKC (or does not 100% own ZKC) is the marketing party, then such Affiliate is, for purposes of this definition and all contexts where it is used, deemed to be a Third Party.

"**Sublicensee**" shall mean any Third Party with whom ZKC executes a Sublicense Agreement. The term "Sublicensee" always excludes, however, an entity that meets the definition of "Distributor," provided that the entity is not an Affiliate of Zenyaku.

"**Sublicensing Proceeds**" shall mean (i) all upfront payments received by ZKC pursuant to a Sublicense Agreement, and (ii) all milestone payments received by ZKC pursuant to a Sublicense Agreement to the extent in excess of the milestone payments that are otherwise payable by ZKC to Theraclone pursuant to Article 5 of this Agreement, and (iii) all other payments received by ZKC pursuant to a Sublicense Agreement except excluding only: (a) (x) to the extent that ZKC is purchasing the supply of Licensed Product from Theraclone, the transfer price paid by ZKC to Theraclone for such Licensed Product (and explicitly excluding any markup over such transfer price paid by Sublicensee to ZKC; such markups are specifically included in Sublicensing Proceeds), and (y) to the extent that ZKC is manufacturing or controls the manufacture of Licensed Product, payment for supply of Licensed Product and including in this exception up to a [***] markup on the fully burdened costs of supply for bulk or vialed product (and any amounts in excess of such [***] markup are specifically included in Sublicensing Proceeds), (b) royalty payments calculated as a percentage of product sales, (c) payments for equity in ZKC at then-current fair market value of such equity (specifically excluding the amount of any premiums; the amount of any such premium shall be included in Sublicensing Proceeds), (d) loans (except to the extent forgiven; all forgiven amounts are included in Sublicensing Proceeds), (e) bona fide research and development funding at reasonable and customary rates, (f) funding for then-future research and development expenses (including fully loaded costs of personnel), (g) reimbursement of past or future patent prosecution and maintenance expenses, and (h) reimbursement of other, future (after execution of the applicable Sublicense Agreement) costs and expenses.

"**Supply Agreement**" shall have the meaning set forth in Section 8.1.

"**Territory**" shall mean Japan.

"**Theraclone**" shall mean Theraclone Sciences, Inc., more particularly identified in the opening paragraph of this Agreement.

"**Theraclone Development Plan**" shall have the meaning given in Section 2.1.

"**Theraclone Inventions**" shall have the meaning set forth in Section 9.

"**Theraclone Know-How**" shall mean all Know-How Controlled by Theraclone or any of its Affiliates that is necessary or useful for the manufacture, development (including testing) or commercialization of Licensed Antibody(ies) or Licensed Products. For the purpose of clarity, notwithstanding any other provision in this Agreement, Theraclone Know-How shall not include Theraclone's proprietary methods for B cell activation *in vitro* and for antibody discovery.

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"**Theraclone Listed Patents**" shall mean (a) all Patents listed in Exhibit C; (b) all patent applications (including provisional and utility applications) claiming priority to or common priority with or based on any of the foregoing, including all divisionals, continuations, continuations-in-part, patents of addition and substitutions of any of the foregoing; (c) all patents issuing on any of the foregoing, and all reissues, reexaminations, renewals and extensions of any of the foregoing; (d) all counterparts to the foregoing in other countries; and (e) all Supplementary Protection Certificates, restoration of patent term and other similar rights of Theraclone and its Affiliates based on any of the foregoing.

"**Theraclone Patents**" shall mean (a) the Theraclone Listed Patents, (b) all Patents that claim Theraclone Inventions, and (c) all other Patents Controlled by Theraclone or any of its Affiliates as of the Effective Date or at any time during the term of this Agreement that Cover Licensed Antibody or Licensed Product. Theraclone Patents exclude ZKC Patents and Joint Patents.

"**Therapeutic Drug Monitoring**" shall mean diagnostic uses limited solely to (a) patient qualification for treatment or prophylaxis with Licensed Product (e.g., testing to see whether the patient is infected with a virus to which the Licensed Antibody of the Licensed Product binds) and/or (b) patient monitoring in the course of treatment or prophylaxis with Licensed Product.

"**Third Party(ies)**" shall mean any party other than a party to this Agreement or an Affiliate thereof.

"**Valid Claim**" shall mean, subject in all cases to Section 4.1(h), a claim of an issued, unexpired patent included in the Theraclone Patents that has not been (a) held invalid or unenforceable by a final decision of a court or governmental agency of competent jurisdiction, which decision is unappealable or was not appealed within the time allowed therefor or (b) admitted in writing to be invalid or unenforceable by the holder(s) by reissue, disclaimer or otherwise.

"**ZKC**" or "**Zenyaku**" shall mean Zenyaku Kogyo Co., Ltd., more particularly identified in the opening paragraph of this Agreement.

"**Zenyaku Development Plan**" shall have the meaning given in Section 2.1.

"**ZKC Inventions**" shall have the meaning set forth in Section 9.

"**ZKC Know-How**" shall mean all Know-How Controlled by ZKC (or any of its Affiliates) that is necessary or useful for the manufacture, development (including testing) or commercialization of Licensed Antibody(ies) or Licensed Products.

"**ZKC Patents**" shall mean all Patents that claim ZKC Inventions. ZKC Patents exclude Theraclone Patents and Joint Patents.

The words “include,” “includes,” “including” and other conjugations of “to include” shall be deemed followed by “without limitation” regardless of whether written there (and drawing no implications from inconsistent usage).

**2. Development; Development Plans; Information Exchange.**

**2.1** Commencing on the Effective Date, the parties shall collaborate in the development and commercialization of the Licensed Products in the Licensed Field. The bulk of the initial activities and responsibilities for the development of the Licensed Products in the Licensed Field are to be primarily performed by Theraclone, because Theraclone will be developing for the United States (and other areas of the Retained Territory), and the parties intend that ZKC’s development of Licensed Product for the Territory will follow in time and be based on the results obtained in Theraclone’s development for the United States and/or in countries whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH. The program of activities to be conducted by Theraclone during the term of the Agreement is set forth on Exhibit D-1 (the “**Theraclone Development Plan**”). Zenyaku shall provide to Theraclone within three (3) months after Theraclone doses the first patient in a Phase III Clinical Trial in a country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH, Zenyaku’s draft written plan for its program of development activities in the Territory (“**Zenyaku Development Plan**”). This draft that Zenyaku provides shall be the version that Zenyaku plans to present to and discuss with the Japanese Regulatory Authority. Promptly after such presentation and discussion, Zenyaku shall, based on the feedback (if any) from such Regulatory Authority, update the Zenyaku Development Plan and share the updated version with Theraclone. The Zenyaku Development Plan shall be reviewed at least on an annual basis by the Joint Steering Committee as set forth in Section 3.2. Prior to submitting the Zenyaku Development Plan to Theraclone, ZKC shall use good faith efforts to provide an update at each JSC meeting regarding ZKC’s potential development strategies for the Licensed Product in the Territory. For clarity, the Zenyaku Development Plan (and in general, Zenyaku’s development activities) shall be limited to activities within the Territory. In addition, if Zenyaku’s protocols or endpoints differ from those of the clinical trials of the Theraclone Development Plan, Zenyaku shall present to the JSC Zenyaku’s proposed protocols and endpoints; the parties shall seek to reach consensus in the JSC; and in any event Zenyaku shall be permitted to adopt protocols and endpoints as needed to meet regulatory requirements in the Territory or any requirements of the Regulatory Authority in the Territory. The Theraclone Development Plan and the Zenyaku Development Plan are the “**Development Plans**.” The Theraclone Development Plan includes a development plan setting forth the activities currently contemplated by the parties to be performed in developing the Licensed Products for the U.S. Anything herein to the contrary notwithstanding, the timelines included in the Theraclone Development Plan are non-binding and shall function as guidelines for the development of Licensed Products and may be modified from time-to-time as set forth in Section 3.2. The parties agree that the end goal of the Development Plans shall be the expeditious clinical development and regulatory approval of the Licensed Products as necessary for the import, manufacture, marketing and/or sale thereof in the Territory in the Licensed Field consistent with each party’s obligations in Article 7. No material deviation in the subject matter and scope of the Theraclone Development Plan shall be made without the mutual written agreement of both parties except as set forth in this Agreement.

**2.2** ZKC shall have the right, subject to the terms and conditions of this Agreement, including, without limitation, Section 3 and Article 7, to determine the non-clinical, preclinical and clinical development and commercialization plan for the Licensed Antibodies and Licensed Products in the Territory. For purposes of clarity, Zenyaku has the right to develop a combination product (i.e., a product that includes more active ingredients than one Licensed Antibody), but if Zenyaku chooses to do so, and Theraclone (or its licensee, sublicensee or Affiliate) is not developing such combination product for the Retained Territory, then the costs and activities associated with clinical development, manufacturing development, formulation, and pre-clinical testing for use and/or sale of such combination Licensed Product for the Territory shall be solely borne by ZKC and be ZKC's sole responsibility. Any cost of additional manufacturing requirements and testing that must be performed to meet specific and unique requirements in the Territory for the use and/or sale of the Licensed Products in the Territory shall be solely borne by ZKC (*provided* that these have been pre-approved in writing by Zenyaku).

**2.3** Theraclone shall provide ZKC access to Theraclone Know-How (to avoid doubt, including manufacturing, non-clinical and clinical data, and regulatory filings Controlled by Theraclone) that are necessary or useful for the Licensed Product in the Licensed Field, and shall cause its Affiliates and, to the extent required (whether in writing or orally) by the Japanese Regulatory Authorities, any Third Party(ies), including, but not limited to, Theraclone's additional partner(s) other than ZKC (i.e., all Other Licensees) for the Licensed Products in the Licensed Field controlling any such manufacturing, non-clinical and clinical data and regulatory filings to make such access available to ZKC, subject to the confidentiality obligations set forth in Section 11, as more particularly provided for in Sections 2.6-2.9. ZKC shall reimburse Theraclone for all out-of-pocket costs (to be clear, specifically excluding any internal costs such as personnel time) associated with providing such assistance. In addition, on an ongoing basis as requested by ZKC, Theraclone shall provide ZKC with regular reports of Theraclone's performance of the activities assigned to it in the Development Plans, and access to any Theraclone Controlled underlying raw data, case report forms, laboratory notebooks or other original documents regarding such reports if requested by ZKC, for use by ZKC to determine if ZKC wishes to continue making the research and development funding payments set forth in Section 5.1(b). These regular reports shall be written summaries, in a form reasonably acceptable to ZKC. The frequency of such reports shall be determined by the JSC, and in any event shall be at least quarterly.

**2.4** ZKC shall provide Theraclone access to ZKC Know-How (to avoid doubt, including manufacturing, non-clinical and clinical data, and regulatory filings Controlled by ZKC that are necessary or useful for the Licensed Product in the Licensed Field), and shall also cause its Affiliates and any Sublicensees controlling any such manufacturing, non-clinical, and clinical data and regulatory filings to make such access available to Theraclone, subject to the confidentiality obligations set forth in Section 11, as more particularly provided for in Sections 2.6-2.9. Theraclone shall reimburse ZKC for all out-of-pocket costs (to be clear, specifically excluding any internal costs such as personnel time) associated with providing such assistance.

**2.5** In addition to its performance of the activities assigned to it in the Development Plans, Theraclone shall perform (or have performed by the contractors identified in the following plans) the M2e and HA mimetic research activities outlined in Exhibit E-1 and Exhibit E-2. On an ongoing basis as requested by ZKC, Theraclone shall provide ZKC with regular reports of Theraclone's performance of such activities. These reports shall be written summaries in a form reasonably acceptable to ZKC. The frequency of such reports shall be determined by the JSC, but in any event at least quarterly. Theraclone shall, to the extent Controlled by Theraclone (and Theraclone shall use commercially reasonable efforts to gain Control of all such data, reports, notebooks, and documents) provide ZKC access to any underlying raw data, research reports from contractors, laboratory notebooks or other original documents regarding such reports if requested by ZKC, at no additional cost to ZKC, for use by ZKC to determine if ZKC wishes to exercise its right of first refusal set forth in Section 4.2. To avoid doubt, ZKC has the right to receive all data resulting from the research plans (to the extent Controlled by Theraclone) set forth on Exhibits E-1 and E-2 at no additional cost.

**2.6 Sharing of Clinical and Other Data**. Once clinical development has been initiated by either party, from time to time (but no less frequently than annually, in advance of the Joint Steering Committee meeting(s) closest to September) each of ZKC and Theraclone shall disclose to the other a written summary, in a form reasonably acceptable to both parties, of clinical data with respect to Licensed Antibodies in the Licensed Field and Licensed Products in the Licensed Field generated by or under authority of such party since the last such disclosure. It is understood that ZKC's and Theraclone's obligation to provide summaries under this Section 2.6 can be fulfilled by providing a copy of the annual report describing clinical development with respect to Licensed Antibodies in the Licensed Field and Licensed Products in the Licensed Field conducted by or on behalf of such party, including any that such party (or others acting under its authority, including Sublicensees and Other Licensees) is requested to provide to Regulatory Authorities in its territory (each an "**Annual Regulatory Report**"). Upon the request of ZKC or Theraclone, the other shall provide prompt and complete access to and the right to use for purposes of the activities for which such requesting party is licensed under this Agreement any Clinical Regulatory Filings and Safety Data generated by such party, its Affiliates, its Sublicensees and its Other Licensees; *provided* that in any such case the requesting party provides notice to the other party reasonably in advance and reimburses the other party for any reasonably incurred costs of satisfying the request. (To be clear, this regards costs of providing access, not costs of generating the clinical data.) Each party must include its Sublicensees' Clinical Regulatory Filings data (in the case of Zenyaku) and its Other Licensees' Clinical Regulatory Filings data (in the case of Theraclone) in such party's Annual Regulatory Reports (but only to the extent that such data is required (whether in writing or orally) to be provided by the relevant Regulatory Authorities for such party's territory) (or cause the Sublicensee or Other Licensee to provide such a report to Zenyaku or Theraclone, as the case may be), and provide access to its Sublicensees' or Other Licensees' Clinical Regulatory Filings on the same basis as if the Sublicensees or Other Licensees were such party. If requested by either party, the Joint Steering Committee shall discuss such Annual Regulatory Reports. In addition to the Annual Regulatory Report, Clinical Regulatory Filings and Safety Data required to be shared as stated above in this Section 2.6, if necessary (because it is required (whether in writing or orally) by the applicable Regulatory Authority(ies)) for a party or its Affiliate, Sublicensee or Other Licensee to have access to certain of the underlying raw data, case report forms or other original documents (including laboratory notebooks) generated by or on behalf of the other party (or its Affiliates, Sublicensees and Other Licensees (collectively with such other party, the "**Possessing Entities**")), then, to the extent required (whether in writing or orally) by such Regulatory Authority(ies), the Possessing Entities shall provide copies, or if required, access to the originals, of such items. The requesting party shall reimburse the providing party for all out-of-pocket costs (to be clear, specifically excluding any internal costs such as personnel time) associated with providing such assistance.

**2.7 Records**. Each of ZKC and Theraclone shall maintain complete and accurate records of all work (including research, development, clinical, manufacturing and commercialization) it conducts (itself or through its Affiliates or Third Parties (including in Theraclone's case Other Licensees and in Zenyaku's case Sublicensees)) under this Agreement and all results, data and developments made pursuant to its efforts under this Agreement. Each of ZKC and Theraclone shall use commercially reasonable efforts to gain Control of all such reports, results, data and developments of its Other Licensees (in Theraclone's case) and Sublicensees (in Zenyaku's case). Such records shall be complete and accurate and shall fully and properly reflect all work done and results achieved in the performance of this Agreement in sufficient detail and in good scientific manner appropriate for Patent and regulatory purposes.

**2.8 Access to Records**. Each of ZKC and Theraclone shall have the right to review and copy the records of the other party (that are Controlled by such other party) described in Section 2.7 (including raw data and scientific notebooks, to the extent provided for under Section 2.7) at reasonable times to the extent necessary for it to conduct its activities in its respective territory or exercise its rights under this Agreement and at the reviewing party's expense (including compensating the other party for reasonable associated out-of-pocket costs and expenses). With respect to filings made to a Regulatory Authority (including applications for INDs, Regulatory Approval applications and the like), both parties shall make available to the other original documentation of such records in connection therewith. Each of Theraclone and Zenyaku shall have the right to use such records of the other party for purposes of the development or commercialization of any Licensed Product or Licensed Antibody (including the filing of Regulatory Approval applications) in its respective territory during the Term. In general, both in this Section and in relation to all other Sections under which Zenyaku provides documents and information under this Agreement, Zenyaku shall not be required to translate such documents and information into English (or into any other language), except solely that Zenyaku shall provide a courtesy, unofficial English version of the following: (i) meeting minutes with the Japanese Regulatory Authority and an integrated summary of safety and efficacy data, and (ii) ZKC's (or its Affiliate's or Sublicensee's) Annual Regulatory Report, Clinical Regulatory Filings and Safety Data. Such translation shall be at no cost to Theraclone. In general, both in this Section and in relation to all other Sections under which Theraclone provides documents and information under this Agreement, Theraclone shall not be required to translate such documents and information into Japanese (or into any other language), except solely that Theraclone shall provide a courtesy, unofficial English version of the following: (i) meeting minutes with any and all Retained Territory Regulatory Authorities and an integrated summary of safety and efficacy data, and (ii) Theraclone's (or its Affiliate's or Other Licensee's) Annual Regulatory Report, Clinical Regulatory Filings and Safety Data. Such translation shall be at no cost to Zenyaku.

**2.9 Communications with Regulatory Authorities**. Each of ZKC and Theraclone shall keep the other party informed on an ongoing basis at Joint Steering Committee meetings regarding its (or its Affiliate's, Sublicensee's or Other Licensee's) regulatory strategy, planned regulatory submissions and material communications with Regulatory Authorities with respect to all Licensed Antibodies and Licensed Products in its respective territory. Subject to Zenyaku's rights below in this paragraph, Zenyaku, its Affiliates and Sublicensees, on the one hand, and Theraclone, its Affiliates and Other Licensees on the other hand, shall not, during the term of this Agreement, communicate with Regulatory Authorities of the other party's territory regarding any Licensed Antibody or Licensed Product without such party's advance written consent, such consent not to be unreasonably withheld, delayed or conditioned. However, each party shall provide the other party with reasonable advance notice of any meeting or pre-scheduled, material, substantive telephone conference with any Regulatory Authority relating to any Licensed Product or Licensed Antibody. Each party may request, and, only with permission of the party who is conducting the meeting or teleconference with the Regulatory Authority of its respective territory, shall have the right to attend and observe (but not participate actively in) any material meeting or material conference call with any Regulatory Authority regarding any of the other party's (or its Affiliate's, Sublicensee's, or Other Licensee's) Licensed Products or Licensed Antibody. In addition, each party shall promptly furnish to the other party copies of all correspondence that the furnishing party (or its Affiliate, Sublicensee or Other Licensee) receives from, or submits to, any Regulatory Authority (including contact reports concerning conversations or substantive meetings) relating to any Licensed Product or Licensed Antibody. The furnishing party shall also provide to the other party any meeting minutes that reflect material communications with any Regulatory Authority regarding a Licensed Product or Licensed Antibody. Minutes of material communications with the Japanese Regulatory Authority will be translated into English, but materials actually corresponded with the Japanese Regulatory Authority are not required to be translated into English.

Each of Theraclone and ZKC shall allow the other to attend all of their clinical investigators' meetings, and will use commercially reasonable efforts in good faith to cause the Other Licensees and Sublicensees, as appropriate, to allow the parties to attend all of such Other Licensees' and Sublicensees', as appropriate, clinical investigators' meetings. By way of background, it is anticipated that through joint meetings of the JSC of this Agreement and the steering committees that each party may have with its Sublicensees and Other Licensees, that the worldwide development program for Licensed Antibodies and Licensed Products will be conducted in such a manner that allows for all developing parties worldwide to confer with each other and have an opportunity to reach consensus as to clinical development worldwide.

**2.10 Regulatory Assistance**. Beyond the information sharing provided for above in this Article, at Zenyaku's request, Theraclone shall provide advice and reasonable assistance to Zenyaku with respect to Zenyaku's filings with Regulatory Authorities for the Territory. This advice and assistance shall be provided free of charge -- as regards internal or personnel costs -- up to four (4) Theraclone person hours per calendar month. To be clear, time spent by Theraclone personnel to support an audit of Theraclone's (or its manufacturers') facilities by Zenyaku or the Regulatory Authority in the Territory shall not be counted toward the foregoing allotment of Theraclone person hours. All (a) external costs of providing such advice and assistance (e.g., travel and lodging expenses of any Theraclone personnel who travel to Japan under this Section), and (b) personnel costs for Theraclone person hours exceeding the free-of-charge hours described above, shall be reimbursed to Theraclone by Zenyaku within 30 days after invoiced by Theraclone to Zenyaku.

**3. Joint Steering Committee.**

**3.1** As set forth below, the parties will establish a Joint Steering Committee and a Joint Commercialization Committee. Each of the Joint Steering Committee and the Joint Commercialization Committee shall have no power to amend, modify or waive compliance with this Agreement. Each such committee shall have only such powers as are specifically set forth in this Agreement for such committee to perform. The minutes of the Joint Steering Committee and the Joint Commercialization Committee, regardless of whether signed by representatives of both parties, shall not be deemed to amend, modify or waive compliance with this Agreement.

**(a)** A Joint Steering Committee (the "**Joint Steering Committee**" or "**JSC**") shall be established within thirty (30) days after the Effective Date. During the period beginning on the Effective Date and ending on the earlier of (i) the date on which all Regulatory Approvals have been obtained in the Territory, and (ii) a date mutually agreed by the parties if they reach mutual written agreement for a later date (the "**Development Period**"), the Joint Steering Committee shall consist of four (4) members, two (2) individuals appointed by Theraclone and two (2) individuals appointed by ZKC. The Joint Steering Committee shall meet quarterly in person or via teleconference or video conference as set forth in Section 3.2. During the Development Period, the Joint Steering Committee shall be responsible for, among other things, facilitating ongoing cooperation and information exchange between the parties, discussing potential coordination of activities under the Development Plans and communicating each party's direction of all research activity related to the Licensed Products by the parties.

**(b)** Upon the timing set forth in Section 3.3, a Joint Commercialization Committee (the "**Joint Commercialization Committee**" or "**JCC**") shall be established and maintained. The Joint Commercialization Committee shall consist of five (5) members, three (3) individuals appointed by ZKC and two (2) individuals appointed by Theraclone, and shall be chaired by an individual from ZKC. The Joint Commercialization Committee shall meet on the frequency as set forth in Section 3.3. The Joint Commercialization Committee shall be responsible for, among other things, allowing the parties an opportunity for regular coordination in the Territory and the Retained Territory of: reimbursement policies, product positioning and marketing and such other related and ancillary activities as may be agreed. The Joint Commercialization Committee provides an opportunity for the parties to coordinate and share ideas in these areas, but does not have decision making authority regarding the matters that come before it.

**3.2** **Development Reports**. To facilitate coordination during the Development Period, all reports and data generated under the Development Plans by or for each of ZKC and Theraclone shall, subject to the limitations set forth in Article 2, be shared with each other on a prompt and regular basis at meetings of the Joint Steering Committee, to be held every three (3) months either in person, alternatively in Seattle, Washington or Tokyo, Japan, or via teleconference or video conference as may be determined by the Joint Steering Committee taking into account the desire for both parties to manage travel expenses. At least one (1) JSC meeting per year shall be in person, alternating between Seattle, Washington and Tokyo, Japan.

The Joint Steering Committee shall review the Development Plans at least annually. The Joint Steering Committee may make recommendations related to possible Development Plan extensions and/or expansions to the respective senior management teams of each party. The Joint Steering Committee shall be responsible (subject to the qualification at the end of this sentence) for all development decisions (including, but not limited to the initiation and termination of specific projects) with respect to the Retained Territory, that affect activities up to and including dosing of the first patient in a Phase III Clinical Trial of Licensed Product in a country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH, if the decision involves a material change to the Theraclone Development Plan, as it exists at signing of this Agreement, or as it may be updated by the Joint Steering Committee or otherwise with Zenyaku's consent. This includes selection of one or more Licensed Antibody(ies) for clinical development directed against M2e (the first such antibody selected for development, and any back-up or replacement such antibody selected for development, the "**Lead M2e Candidate Antibody**") and one or more Licensed Antibody(ies) for clinical development directed against HA (the first such antibody selected for development, and any back-up or replacement such antibody selected for development, the "**Lead HA Candidate Antibody**") and the authority to determine if and when to cease clinical development of such Lead M2e Candidate Antibody and such Lead HA Candidate Antibody. It is understood and agreed that, subject to Section 7.2, Theraclone shall conduct activities at least commensurate with those set forth in the Theraclone Development Plan as of the Effective Date, and the fact that JSC consensus is needed for any material update to the Theraclone Development Plan as results are obtained (for example, positive and negative results or any results that may cause a back-up or replacement antibody to become the new Lead M2e Candidate Antibody or Lead HA Candidate Antibody) shall not be used as a means for Theraclone by withholding consensus or consent to conduct less development work than what is set forth in the Theraclone Development Plan as of the Effective Date. Also, nothing in this Section is intended to suggest that the JSC cannot approve a combination product Licensed Product (for example, one combining an anti-M2e Licensed Antibody and an anti-HA Licensed Antibody) for development by Theraclone under an updated Theraclone Development Plan approved by the JSC; this is permitted if the JSC reaches consensus as to the matter. ZKC shall have sole discretion over all decisions with respect to the development and commercialization of Licensed Products in the Territory, including all aspects of the Zenyaku Development Plan, without any need for approval or further action by the Joint Steering Committee, but, to be clear, without lessening Zenyaku's obligations in Article 7; provided, however that the Zenyaku Development Plan (and in general, Zenyaku's development activities) shall be limited to activities within the Territory and shall be at ZKC's cost and expense. If Zenyaku desires to start development activities in the Territory prior to the Start Time (as defined below in Section 7.1), then Zenyaku may do so in its sole discretion provided that it has discussed in advance the ZKC Development Plan with the JSC.

All actions by the Joint Steering Committee shall require the approval by a majority of its members, and approval of any and all actions shall require participation of a majority of all members of the Joint Steering Committee, and approval by majority shall require the affirmative vote of at least one member appointed by each of the parties. In the event any actions of the Joint Steering Committee are not approved within a reasonable period of time, the Chief Executive Officers of the parties (or his designee) shall enter into good faith discussion on any such actions by the Joint Steering Committee and seek to reach an amicable decision or outcome, as soon as is practicable. The availability of these CEO (or designee) discussions as a way of finding consensus shall not expand the decisionmaking authority of the JSC, nor prevent either party from ultimately invoking dispute resolution under Article 12, nor subject to dispute resolution any decisions that are reserved to a party or the parties (such as, but not limited to, development decisions regarding development for the Territory, provided that Zenyaku makes such decisions in compliance with its obligations in Article 7; another example is development decisions for the Retained Territory by Theraclone affecting only activities after dosing of the first patient in a Phase III Clinical Trial in a country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH, provided that Theraclone makes such decisions in compliance with its obligations in Article 7).

**3.3** Commencing in the year prior to the first anticipated commercial launch anywhere in the world for the first Licensed Product, and continuing until two (2) years after the last Commercial Launch in the Territory, the Joint Commercialization Committee shall meet at least once every twelve (12) months and at any other time reasonably requested by ZKC, at a mutually agreed location, or via teleconference or video conference, to review and discuss the commercialization progress and plans with respect to the Licensed Product(s) in the Territory (by or for ZKC) and in the Retained Territory (by or for Theraclone). In conjunction with the foregoing meetings, each party shall provide the other party with annual written summary reports on the progress of commercialization, including activities related to the marketing and the Commercial Launch of the Licensed Product(s) in the Territory (by or for ZKC) and activities related to the marketing and the commercial launch of the Licensed Product(s) in the Retained Territory (by or for Theraclone). All such information shall be subject to the confidentiality provisions of Section 11 of this Agreement. The Joint Commercialization Committee has no decision making authority. It will serve as a forum in which the parties may coordinate and explore the possibility of consensus between the parties in commercial matters (to the extent permitted by law), but it is not empowered to make decisions or to take actions.

**3.4** Theraclone shall use commercially reasonable efforts to make arrangements such that the joint committee(s) under its collaboration(s) (whether current or future) with Other Licensees shall meet in joint session with the JSC of this Agreement, at least annually, and more frequently if mutually agreed by all of the relevant entities.

**3.5** Theraclone may submit a list of Licensed Antibodies to the JSC and/or to ZKC which Therelone proposes cannot become Clinical-and-Beyond Licensed Antibodies and therefore would be designated as Other Licensed Antibodies Available For General Diagnostics License. If such a list is submitted to the JSC at least thirty (30) days prior to the next JSC meeting then the JSC shall discuss which of such Licensed Antibodies should be designated as Other Licensed Antibodies Available For General Diagnostics License and try to agree on which Licensed Antibodies should be designated as such. If, after the later of (i) two (2) quarterly JSC meetings at which the matter is discussed, and (ii) nine (9) months after such list of Licensed Antibodies is submitted by Theraclone to ZKC (the "**Parties' Deadline**"), the parties have not reached agreement regarding which of the Licensed Antibodies on such list should be designated as Other Licensed Antibodies Available For General Diagnostics License, then the parties shall engage an independent person with at least fifteen (15) years in senior management positions in the biopharmaceutical industry, including positions with responsibility for development and commercialization of diagnostics. Such person (the "**Technology Expert**") shall not be affiliated with or be an advisor to either of the parties. If the parties cannot agree as to who the Technology Expert shall be within twenty (20) days after the expiration of the Parties' Deadline, then the mechanism for selecting such person shall be the same as that used with the Patent Expert in Section 4.1(c). The Technology Expert is instructed *not* to designate as Other Licensed Antibodies Available For General Diagnostics License any Licensed Antibodies that are reasonable back-up candidates for the Licensed Therapeutic/Prophylactic Field. The parties shall accept the Technology Expert's determination (which shall be binding on the parties) as to which of the listed Licensed Antibodies should be designated as Other Licensed Antibodies Available For General Diagnostics License, and the standard that the Technology Expert shall apply in making the decision shall be: If it is beyond a reasonable doubt that a Licensed Antibody will not become a Clinical-and-Beyond Licensed Antibody then such Licensed Antibody will be designated as a Other Licensed Antibodies Available For General Diagnostics License. Except as set forth in this Section 3.5, the procedures that shall be used with the Technology Expert shall be the same as those used with the Patent Expert in Section 4.1(c).

**4. License Grants; Rights Of First Negotiation.**

**4.1 License.**

**(a)** Subject to the terms and conditions of this Agreement, including, without limitation, Sections 5 and 6 hereof, Theraclone hereby grants to ZKC an exclusive, royalty-bearing (as in Article 5) license (with the right to grant sublicenses through one or multiple tiers in accordance with Sections 4.3 and 4.6) under the Theraclone Patents, Theraclone Know-How and Theraclone's interest in the Joint Patents to research, develop, use, sell, have sold, offer to sell, import and export:

(i) Licensed Antibodies and Licensed Products in the Territory for the Licensed Therapeutic/Prophylactic Field;

(ii) Clinical-and-Beyond Licensed Antibodies and Diagnostic Products containing them in the Territory for Therapeutic Drug Monitoring and General Diagnostics; and

(iii) Other Licensed Antibodies and Diagnostic Products containing them in the Territory for Therapeutic Drug Monitoring.

Notwithstanding the above, the immediately foregoing license in clause (iii) (immediately preceding this sentence) shall be non-exclusive. In addition, Zenyaku hereby covenants that it and its Affiliates and the Sublicensees shall not practice the license with respect to Clinical-and-Beyond Licensed Antibodies and Diagnostic Products containing them, in each case, for General Diagnostics. Furthermore, Theraclone hereby covenants that it and its Affiliates and the Other Licensees shall not seek a label (i.e., Regulatory Approval) of any Diagnostic Product based on an Other Licensed Antibody, for Therapeutic Drug Monitoring of or in connection with therapeutic and/or prophylactic Licensed Products of this Agreement.

Subject to the terms and conditions of this Agreement, Theraclone also hereby grants to ZKC during the term of this Agreement, an exclusive license, with the right to grant sublicenses (through one or more tiers in accordance with Sections 4.3 and 4.6) in the Territory, to use and display any trademarks under Theraclone's sole Control in the Territory with regard to Licensed Antibodies (including Licensed Products) in connection with activities licensed in the first paragraph of this Section.

Theraclone acknowledges that ZKC may, in its sole discretion, register its exclusive license rights under this Agreement with applicable governmental authorities in the Territory and Theraclone agrees that, if requested by ZKC, it shall cooperate with ZKC to register such license rights. All costs, fees, and expenses (including compensating Theraclone of its time spent in connection with such activities at Theraclone's then standard rates) associated with any such registration, whether incurred by ZKC or Theraclone, shall be borne by ZKC.

For avoidance of doubt, once a Licensed Antibody has been designated an Other Licensed Antibodies Available For General Diagnostics Licenses under Section 3.5 then (notwithstanding any provisions of this Agreement) thereafter ZKC has no General Diagnostic rights in or to such Other Licensed Antibodies Available For General Diagnostics Licenses.

**(b)** Subject to the terms and conditions of this Agreement, including Section 5.6, ZKC hereby grants to Theraclone during the term of this Agreement a non-exclusive, fully paid-up (with the exception of patent costs for which Theraclone is responsible under Section 10.1 as regards the ZKC Patents in the Retained Territory), royalty-free license, with the right to grant sublicenses through one or multiple tiers in accordance with Sections 4.4 and 4.6, under the ZKC Patents and ZKC Know-How to research, develop, use, have used, sell, offer for sale, have sold, keep, import, export, make and have made Licensed Antibodies and Licensed Products for the Licensed Field in the Retained Territory or to make and have made Licensed Antibodies and Licensed Products anywhere in the world for supply to Zenyaku and Theraclone's Other Licensees, all to the extent that ZKC has the right to grant licenses thereunder on the terms and conditions of this Agreement.

**(c)** Without making any admission as to the Coverage or lack of Coverage of the Patents licensed hereunder, and without indicating any concern or making any admission regarding any given Third-Party intellectual property known to the parties as of the Effective Date, if Theraclone or ZKC believes that technology related to the subject matter hereof is controlled by a Third Party, which technology may be valuable to the commercialization of the Licensed Products hereunder ("**Additional Technology**"; Additional Technology may include formulation, use, dosing regimen, manufacturing or other intellectual property), Theraclone or ZKC as appropriate shall present such Additional Technology to the Joint Steering Committee. All Joint Steering Committee discussions of Additional Technology shall be conducted with legal counsel (whether from the party's in-house legal department or outside counsel to such party, as elected by such party) present, so as to maintain legal privilege for the discussions, and the parties shall reasonably cooperate to take such other reasonable measures as may be advised by counsel in order to maintain such privilege (such as, but not limited to, entering into a customary common interest/joint defense agreement prior to commencing any such discussions, or refraining from stating opinions regarding Patent Coverage, validity and enforceability in writing). The Joint Steering Committee shall then determine whether licenses to, and/or acquisitions of, such Additional Technology should be made for the Territory, the party that shall approach and negotiate with any such Third Party(ies) and the terms of any agreement(s) with any such Third Party(ies). All costs and expenses to be incurred in connection with obtaining such a license or acquisition for the Territory shall be subject to approval of the JSC, irrespective of which party is selected to negotiate with such Third Party(ies). No such Third Party license and/or acquisition shall be effective with respect to ZKC or Theraclone, as the case may be, unless and until ZKC or Theraclone, as the case may be, specifically agrees in writing to abide by the applicable terms and conditions of any such license and/or acquisition (which terms are consistent with this Agreement), and to make such payments and/or royalties as are mutually agreed by the parties. Nothing set forth in this Section 4.1(c) shall limit the ability of either party to procure technology for their own account or for license to Third Parties, provided, however, that in the case of Additional Technology the parties shall first have completed the determination set forth above and determined that such Additional Technology will not be licensed or acquired pursuant to this Section.

Notwithstanding the foregoing, for Third-Party Patent or Know-How licenses or acquisitions signed within three (3) years after the Effective Date ("**First-3-Years Additional Technology**") (i) the parties hereby agree that ZKC shall be solely responsible for the first [***] of Third Party royalties that are payable on annual Net Sales of a Licensed Product (determined on a Licensed Product-by-Licensed Product basis) in the Territory for First-3-Years Additional Technology, and Theraclone shall be solely responsible for Third Party royalties that are payable on annual Net Sales of a Licensed Product in the Territory for First-3-Years Additional Technology in excess of such [***] (determined on a Licensed Product-by-Licensed Product basis), (ii) in the event that any such agreements include upfront payments, milestone payments, or any other form of payments (other than royalties), then all such payments and the party responsible for making such payments shall need to be approved by the JSC prior to entering into any agreement for such Additional Technology, and (iii) notwithstanding the above, ZKC shall be free from (and Theraclone shall solely bear) such royalty payment for additional Third Party technology which is obtained after the third anniversary of the Effective Date (i.e., all Additional Technology other than First-3-Years Additional Technology).

The mechanism set forth in the following paragraph shall only be applicable if the JSC cannot agree as to obtaining a license to some Additional Technology in connection with the commercialization of a Licensed Product in the Territory. If, after at least two (2) quarterly meetings at which the matter is discussed, the JSC cannot agree as to whether any item of Additional Technology should be licensed for the Territory, then they shall engage an experienced patent attorney mutually acceptable to the parties -- and who does not otherwise perform work for either party or any of its Affiliates and is not affiliated with them -- (a "**Patent Expert**") to advise the parties and make the decision. They shall engage such Patent Expert within thirty (30) days after the second such quarterly meeting at which consensus is not reached, if requested in writing by either party. (If the parties cannot agree as to who such attorney shall be within such time period, then the total of two (2) nominees of the parties (one from each party) shall select a third Patent Expert who shall be the attorney to resolve the dispute. If such two (2) people cannot agree on the third person, then the arbitral body referred to in Article 12 shall select the Patent Expert who shall be the attorney to advise the parties and make the decision.) The parties shall share equally the expenses incurred for the services of such Patent Expert. The parties shall manage the engagement of the Patent Expert in a manner so as best to protect the privilege of the advice rendered by the Patent Expert and the parties' communications with the Patent Expert. Within fifteen (15) days after engaging the Patent Expert, the parties shall each submit up to twenty (20) pages of documentation to the Patent Expert. Within five (5) business days thereafter, the parties shall convene a discussion with the Patent Expert during which each party may orally present its position as to the desirability of licensing the Additional Technology for no more than two (2) hours. The parties shall require the Patent Expert to render his or her guidance as to the desirability of licensing the Additional Technology within five (5) business days after the oral presentations. No party shall engage in any communications with the Patent Expert in which the other party is not included or copied. The parties shall accept and follow the Patent Expert's guidance on the desirability of licensing the Additional Technology. The Patent Expert shall also decide which party shall be the licensing party for Additional Technology that the Patent Expert advises and decides should be licensed. The standard that the Patent Expert shall apply in making the decision whether any item of Additional Technology should be licensed shall be: If a license under Additional Technology is reasonably required in order to avoid claims of patent infringement that are reasonably likely not to be discussed at a preliminary summary judgment stage, then the Additional Technology should be licensed.

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**(d)** Without limiting or altering subsection (c), prior to in-licensing any Additional Technology for the Territory, Zenyaku shall confer with Theraclone in order to learn from Theraclone whether Theraclone desires rights for the Retained Territory. If Theraclone does, and agrees to pay all financial obligations for the Retained Territory, then Zenyaku (if it is the licensing party) shall use commercially reasonable efforts to try to include in the in-license rights for Theraclone's use for the Retained Territory.

**(e)** Each sublicense or license under Additional Technology granted by a party to the other party under this Agreement shall be subject to the terms and conditions of the in-licensing or acquiring party's agreement with the Third Party governing the in-licensing or other acquisition of the rights, provided such terms and conditions are consistent with this Agreement.

**(f)** If the JSC has decided to license any Additional Technology, or the Patent Expert has decided that the parties shall license any Additional Technology, and that Theraclone shall be the licensing party, then: Theraclone shall obtain Control of such Additional Technology for at least the Territory in the form of an agreement reviewed and approved by Zenyaku prior to signing (such approval not to be unreasonably withheld, delayed or conditioned); if such Additional Technology falls within the First-3-Years Additional Technology and within the [***] limit stated in paragraph (c), then Zenyaku shall be responsible for royalties under the license for such Additional Technology up to the cap of [***] of Net Sales in the Territory aggregated across all First-3-Years Additional Technology ("**Zenyaku Additional Technology Costs**") and shall reimburse Theraclone promptly on a quarterly basis for such Net Sales royalties for which Zenyaku is responsible; and Theraclone shall be responsible for all other payments to the licensor. If Theraclone fails to license the Additional Technology as decided by the JSC or the Patent Expert within six (6) months after the decision, then Zenyaku is entitled to take the license for the Territory and to credit all payments to the licensor thereunder, other than the Zenyaku Additional Technology Costs, against payments due Theraclone under this Agreement.

**(g)** If the JSC has decided to license any Additional Technology, or the Patent Expert has decided that the parties shall license any Additional Technology, and that Zenyaku shall be the licensing party, then Zenyaku shall in-license the Additional Technology for the Territory and shall be entitled to credit all payments to the licensor under the in-license, other than the Zenyaku Additional Technology Costs, against payments due Theraclone under this Agreement.

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**(h)** Even if Theraclone is the licensing party, the claims of Patents in Additional Technology are never considered Valid Claims or Pending Claims under this Agreement and are not royalty-bearing to Theraclone under this Agreement.

**4.2 Right of First Refusal Regarding Mimetic Research**. With respect to all Know-How, and all Patents on inventions in each case developed or invented in connection with the M2e and HA mimetic research as described in Section 2.5, or any product candidate or product discovered or suggested in such research or in any research funded by the research extension payments in subsection (b) below ("**Mimetics IP/Candidates**"), Zenyaku shall have a right of first refusal as follows:

**(a)** A "**Potential Mimetics Transaction**" is a transaction for the grant of a license, sublicense or covenant not to sue; sale; assignment; or other transfer to a Third Party (or grant to a Third Party of an option for any of the foregoing rights) with respect to any Mimetics IP/Candidate(s) in the Territory.

**(b)** The "**ROFR Period**" is the time from Zenyaku's receipt of the final report of data from the research under Section 2.5 until [***]. Up to [***] times, Zenyaku may extend the ROFR Period by one year by paying Theraclone an additional [***] in research and development funding for M2e Mimetics IP/Candidates or HA Mimetics IP/Candidates (or both) for each extension (so that the longest the ROFR Period may become is [***] for either M2e Mimetics IP/Candidates or HA Mimetics IP/Candidates, or both). To be clear, Zenyaku may elect to extend the ROFR Period with respect to (i) Potential Mimetics Transactions pertaining to M2e Mimetics IP/Candidates (in which case Zenyaku would pay [***] per extension), (ii) Potential Mimetics Transactions pertaining to HA Mimetics IP/Candidates (in which case Zenyaku would pay [***] per extension), or (iii) Potential Mimetics Transactions pertaining to both M2e Mimetics IP/Candidates and HA Mimetics IP/Candidates (in which case Zenyaku would pay [***] per extension). To avoid doubt, Theraclone shall provide ZKC with any and all updates to the data regarding Mimetics/IP Candidates.

**(c)** During the ROFR Period, Theraclone shall not grant any rights outside the Territory as part of or in connection with a Potential Mimetics Transaction (i.e., shall not mix Territory and ex-Territory rights in the same transaction), whether or not having followed the procedures in the remainder of this Section first, notwithstanding anything implied to the contrary below.

**(d)** If during the ROFR Period, Theraclone decides, intends, or will negotiate terms (including responding to inquiries initiated by another) of a Potential Mimetics Transaction, Theraclone shall first notify ZKC in writing. Without limiting Section 5.5, Theraclone shall state in such notice the following items regarding such Potential Mimetics Transaction: identify the product candidate(s), the licensed field, and the economics so that ZKC may evaluate the Potential Mimetics Transaction. ZKC shall have sixty (60) days to determine if ZKC wishes to negotiate with Theraclone the terms of the Potential Mimetics Transaction.

**(e)** Prior to the end of such 60 days, Theraclone and its Affiliates shall not discuss the Potential Mimetics Transaction (including negotiating terms) with any Third Party, unless Zenyaku earlier indicates in writing it declines to discuss the Potential Mimetics Transaction with Theraclone.

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**(f)** If Zenyaku timely notifies Theraclone in writing that Zenyaku chooses to negotiate the terms of any given Potential Mimetics Transaction, then the parties shall negotiate in good faith, and exclusively with each other, such terms for a period of one hundred twenty (120) days. During this time, both parties shall be reasonably available for discussion, both parties shall respond in a reasonably time to term sheets and drafts, and Theraclone shall not discuss or negotiate terms for such Potential Mimetics Transaction with any Third Party.

**(g)** If the parties reach agreement during such one hundred twenty (120) days, then they shall sign the definitive written agreement (which shall be substantially in the form of this Agreement, excepting the economics and other non-relevant provisions -- e.g., this Section 4.2) for the potential Mimetics Transaction within that one hundred twenty (120) days.

**(h)** If the parties fail to reach written agreement within such one hundred twenty (120) days, then Theraclone shall be entitled to discuss such Potential Mimetics Transaction with Third Parties, and in the following twelve (12) months may conclude an agreement with a Third Party for such Potential Mimetics Transaction provided that Theraclone shall not enter into any agreement with any Third Party on terms more favorable to the Third Party than the terms in Theraclone's notice in subsection (d) or the last proposal by Theraclone in the negotiations in subsection (f), nor less favorable to Theraclone than Zenyaku last offered to Theraclone in the negotiations of subsection (f) in all cases, for such Potential Mimetics Transaction. If Theraclone does not sign the definitive agreement with the Third Party within such twelve (12) months, then, during the remainder of the ROFR Period, Zenyaku's rights under this Section shall again apply to such Potential Mimetics transaction.

**(i)** Subsections (d) - (h) apply individually to each and every Potential Mimetics Transaction.

After the ROFR Period, Zenyaku shall have a right of first notice as to all Potential Mimetics Transactions as follows: If Theraclone decides, intends, or will negotiate terms (including responding to inquiries initiated by another) of a Potential Mimetics Transaction, Theraclone, thirty (30) days prior to negotiating with any Third Party with respect to such transaction, shall first notify ZKC in writing (providing in such notice the identity of the product candidate(s) and the licensed field(s) and the economics that Theraclone would propose to ZKC). Thereafter, if ZKC wishes to negotiate with Theraclone as to such transaction, then Theraclone agrees to negotiate in good faith with ZKC regarding such transaction. After the ROFR Period, Theraclone is not required to sell Territorial rights separately from extra-Territorial rights to Mimetics IP/Candidates.

**4.3 Sublicenses by ZKC in the Territory**. In any Sublicense to a Third Party for the grant of rights under this Article 4 ZKC will to the fullest extent applicable, (i) include provisions at least as favorable to Theraclone for the protection of Theraclone's rights and the limitation of Theraclone's liability exposure as the terms of this Agreement, including without limitation with respect to limitation of liability and indemnification, and (ii) contain provisions for the Sublicensee to accommodate all rights and obligations due to Theraclone by ZKC contained in this Agreement with respect to record-keeping, Theraclone's audit rights and the grant of further sublicenses of the Sublicensed rights. ZKC shall ascertain, calculate, audit, and collect all royalties and other payments that become payable in relation to Sublicensee hereunder and take or not take (as determined in ZKC's sole discretion) applicable enforcement action against such Sublicensee for any failure to pay or to properly calculate payments, or for any other material breach of such Sublicense Agreement. No Sublicense shall relieve ZKC of its obligations hereunder, including, but not limited to, ZKC's obligation to pay Theraclone the milestone payments, royalty payments, share of Sublicensing Proceeds, patent expenses payments, and other payments set forth herein, on the same terms set forth herein such that Theraclone will receive at least what would have been due to Theraclone as if ZKC had completed the applicable milestones, or made sales of Licensed Product(s) or Licensed Antibodies, as were completed and made under the Sublicense Agreement by the Sublicensee. Any purported Sublicense in violation of this Section 4.3 shall be void. ZKC shall furnish Theraclone a copy of each Sublicense Agreement within fifteen (15) days of entering into such agreement for Theraclone's records; provided that ZKC may appropriately redact such Sublicense Agreement to remove information not directly relevant to determining compliance with Theraclone's rights under this Section.

**4.4** **Sublicenses by Theraclone Outside the Territory**. In any sublicense to a Third Party by Theraclone for the grant of rights by ZKC to Theraclone under this Article 4, Theraclone will, to the fullest extent applicable (i) include provisions at least as favorable to ZKC for the protection of ZKC's rights and the limitation of ZKC's liability exposure as the terms of this Agreement, including without limitation with respect to limitation of liability and indemnification, and (ii) contain provisions for the sublicensee to accommodate all rights and obligations due to ZKC by Theraclone contained in this Agreement with respect to record- keeping, ZKC's audit rights and the grant of further sublicenses of the sublicensed rights. Any purported sublicense in violation of this Section 4.4 shall be void. Theraclone shall furnish ZKC a copy of each sublicense agreement within fifteen (15) days of entering into such agreement for ZKC's records; provided that Theraclone may appropriately redact such sublicense agreement to remove information not directly relevant to ZKC's rights under this Section. To avoid doubt, this Section applies *mutatis mutandis* to all License Agreements.

**4.5** If during the term of this Agreement Theraclone creates a partnership outside the Territory with a company that shows interest in the Territory, and if ZKC is interested in discussing with such company regarding Sublicensing the Licensed Product in the Territory, then ZKC may enter into such discussions in good faith with such company and Theraclone shall fully assist ZKC. Zenyaku shall have no obligation to grant or discuss a Sublicense to any Third Party.

**4.6** **Coordination of Sublicenses and Rights of Other Licensees with this Agreement.**

**(a)** Zenyaku shall ensure that its agreements with Sublicensees are consistent with and impose obligations consistent with the terms and conditions regarding Sublicensees set forth in this Agreement, including Sections 2.4, 2.6, 2.7, 2.8, 2.9, 4.1(a), 4.3, 4.6, 11.2 and 15.8. Without limiting the generality of the foregoing, Zenyaku shall in particular require its Sublicensees to make available Clinical Regulatory Filings, Safety Data, and underlying detailed data as required by Section 2.6. In addition to the foregoing, in any Sublicense Agreement Zenyaku shall obtain ownership of or a sublicenseable license that is exclusive in the Territory (including the right of sublicensees to further sublicense) to: (i) all Patents claiming inventions developed by or for the Sublicensee in Licensed Product and/or Licensed Antibody related activities that if invented by Zenyaku would be Zenyaku Product Inventions (and for purposes of this Agreement they shall be deemed to be Zenyaku Product Inventions); and (ii) all Know-How developed in such activities that if owned or Controlled by Zenyaku would be Zenyaku Know-How. Information provided by a Sublicensee (or of a Sublicensee provided by Zenyaku) to Theraclone and its Other Licensees under this Section 4.6(a) shall be the Confidential Information of Zenyaku licensed to Theraclone in accordance with this Agreement.

**(b)** Similarly, Theraclone shall ensure that its agreements with Other Licensees are consistent with and impose on its Other Licensees obligations consistent with the terms and conditions set forth in this Agreement, including Sections 2.3, 2.6, 2.7, 2.8, 2.9, 3.4, 4.1(a), 4.4, 4.6, 11.2 and 15.9. The last two (2) sentences of Section 4.6(a) shall apply *mutatis mutandis* to describe the obligations of Theraclone to obtain intellectual property and data rights from Other Licensees for the Territory. To avoid doubt, and without limiting the generality of the foregoing, this means that Theraclone must obtain ownership of or a fully sublicensable license that is exclusive in the Territory under any antibodies directed to, raised against or that bind M2e and/or HA, discovered by or for the Other Licensee in Licensed Antibody-related or Licensed Product-related activities, including all of the kinds of antibodies referred to in the definition of Licensed Antibody, including fragments and chemically modified versions of the types as described in such definition.

**(c)** Both parties shall use Commercially Reasonable Efforts to obtain ownership or license rights and Control of all Know-How generated and all Patents on inventions invented by service providers performing research and/or development for such party with respect to Licensed Antibodies and/or Licensed Products, which Know-How and Patents would be included in the party's Zenyaku Know-How or Theraclone Know-How and ZKC Patents or Theraclone Patents if the applicable Know-How or invention claimed in such Patent had been generated or invented by such party. Such license rights and Control may be on an exclusive or a non-exclusive basis.

**4.7** **Trademarks**. Theraclone shall be responsible for the selection, registration and maintenance of the primary, product-specific trademarks which will be employed in connection with the Licensed Products in the Territory, which product-specific trademarks shall be the local (in the Territory) version of the worldwide trademarks for the commercialized Licensed Products. Theraclone shall own and/or Control any such trademarks and shall ensure that such trademarks and use thereof by ZKC in the Territory does not infringe any rights of Third Parties, provided that prior to selection of such trademarks, Theraclone shall provide ZKC an opportunity to review and comment on any such trademark together with the results of Theraclone's non- infringement searches and analysis related to such trademark and Theraclone shall, in good faith, take ZKC's comments into consideration in Theraclone's selection of such trademarks. Theraclone shall have all trademark infringement liability for trademark infringement by use of the trademarks referred to above in this Section. In addition to the trademarks referred to above in this Section, it is understood and agreed that the label for each Licensed Product may include the trademarks and company names of the marketing entity (whether Zenyaku, its Affiliate, or a Sublicensee or Distributor), and shall -- if requested by Theraclone and legally permitted -- contain Theraclone's name or logo (as determined by Theraclone), in a type font or size no smaller (unless otherwise agreed by Theraclone) and no larger (unless otherwise agreed by Zenyaku) than 50% of the size of the type font in which the marketing entity's name is written or size in which such marketing entity's logo appears, or if smaller, the maximum percentage allowed by applicable law in the Territory. If a local version of the global Licensed Product-specific trademark is not available or appropriate in Japan (or would infringe a Third-Party trademark in Japan), then after discussion with Theraclone through the JCC, Zenyaku as the local company with marketing expertise in Japan shall be entitled to select and own the local Licensed Product trademark, and shall have any liability for Third Party trademark infringement by such local Licensed Product trademark selected by Zenyaku.

**5. Payments.**

The parties agree to make the following payments to each other in US Dollars by wire transfer of immediately available funds:

**5.1 License Fee and Research and Development Funding and Phase I Clinical Trial Funding.**

**(a)** Within ten (10) business days after the Effective Date, ZKC shall pay to Theraclone a non-creditable, non-refundable licensing fee of [***] to be made via wire transfer of immediately available funds.

**(b)** In addition, ZKC may make the following non-refundable research and development funding payments in the following amounts in accordance with the progress of development of the Licensed Product and this Section 5.1(b). Without limiting Theraclone's reporting obligations under Section 2.3, in order for ZKC to review the progress of development (and to examine the potential of Licensed Product in the Licensed Field and to evaluate the feasibility in Zenyaku's opinion of the development and commercialization program contemplated by this Agreement), commencing on the Effective Date and during the research and development funding payments, Theraclone shall provide ZKC with a summary report at least forty-five (45) days prior to each payment's expected date summarizing the progress of development of the Licensed Product. If ZKC wishes to continue funding Theraclone's research and development efforts under the Development Plans, then ZKC shall notify Theraclone within such forty-five (45) day period whether Zenyaku will make the corresponding research and development funding payment provided in the table below or whether it chooses instead to terminate its rights to Licensed Antibodies and Licensed Products under this Agreement pursuant to Section 15.3 (which termination is required if Zenyaku chooses not to make the scheduled payment). If Zenyaku has chosen to continue funding, then it shall make the scheduled payment within an additional fifteen (15) days. Failure to make the payment under such circumstance shall be actionable by Theraclone under Section 15.4.

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**Research and Development Funding Payments**

| EXPECTED PAYMENT DATE | AMOUNT (US $) IF ZKC WISHES TO CONTINUE FUNDING |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

If ZKC wishes to continue funding as set forth above, the payment amounts set forth above shall be paid directly to Theraclone. [***] of each of the expected payments for [***] shall be creditable to the payments due from ZKC for Theraclone's mimetic research as set forth in Section 5.4. Except as may be passed through to ZKC by means of the potential ZKC payments as described above, Theraclone shall be responsible for bearing all clinical and development costs in the United States (and all other costs for the Retained Territory) and ZKC will be responsible for bearing all clinical and development costs in the Territory.

**5.2 Milestone Payments**.

In addition to the amounts payable pursuant to Section 5.1 above, ZKC also agrees to pay Theraclone the following milestone payments for the first Licensed Product to reach each of the following milestones (for purposes of clarity each of the milestone payments shall only be made once), to be made via wire transfer of immediately available funds, within thirty (30) days following (i) in the event such milestone is achieved outside of the Territory (by or for Theraclone), ZKC's receipt of a written notice as well as documentary evidence of achievement of each of the following milestones, or (ii) in the event such milestone is achieved in the Territory (by or for Zenyaku or its Affiliate or Sublicensee), achievement of such milestone:

| DEVELOPMENT MILESTONES FOR THE FIRST LICENSED PRODUCT TO REACH SUCH MILESTONE | PAYMENT (US $) |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

[***]. Accordingly, a maximum of [***] United States dollars is payable under this Section 5.2.

**5.3 Sharing of Sublicensing Proceeds by ZKC**.

In addition to the amounts payable pursuant to Sections 5.1 and 5.2 above, ZKC also agrees to pay Theraclone for each Licensed Product, a share of all Sublicensing Proceeds received by ZKC in connection with Sublicensing Agreements, the amount of which shall be dependent upon the stage of development of the Licensed Product at the time of execution of the Sublicensing Agreement pursuant to which the Sublicensing Proceeds are paid, as follows:

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| STAGE OF DEVELOPMENT OF LICENSED PRODUCT (ANYWHERE IN THE WORLD) AT TIME OF EXECUTION OF SUBLICENSING AGREEMENT | SHARE OF SUBLICENSING PROCEEDS |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

All such payments shall be made by ZKC to Theraclone via wire transfer of immediately available funds within thirty (30) days of ZKC's receipt of the corresponding Sublicensing Proceeds.

**5.4 Research Funding for Structured Mimetic of M2e and of HA**. By [***], ZKC shall pay to Theraclone a research funding payment of [***] to cover the research costs for Theraclone to engage in the research outlined in Exhibit E-1, unless ZKC has made the expected payment for [***] as set forth in Section 5.1 above, in which case such expected payment shall be fully creditable to the foregoing research funding payment. By [***], ZKC shall pay to Theraclone a research funding payment of [***] to cover the research costs for Theraclone to engage in the research outlined in Exhibit E-2, unless ZKC has made the expected payment for [***] as set forth in Section 5.1 above, in which case such expected payment shall be fully creditable to the foregoing research funding payment. It is understood and agreed that these payments will be fully paid by the credits described in Section 5.1 unless this Agreement earlier terminates.

**5.5 Milestone Payments for Structured Mimetic of M2e and HA**. In the event that ZKC enters into a license agreement(s) with Theraclone for the structured mimetic for M2e and/or for HA, pursuant to Section 4.2 above (i.e., the parties sign a definitive agreement for a Potential Mimetics Transaction), then Theraclone hereby agrees that such license agreement(s) will, similar to Section 5.2 above, limit the milestone payments such that ZKC will only be obligated to make a single milestone payment for each milestone reached, by the first licensed product to reach it, and no milestone payments shall be due if subsequent licensed products reach the applicable milestones.

**5.6 Payments by Theraclone with respect to the Retained Territory**.

**(a) Licensing Proceeds**. Theraclone shall pay to Zenyaku a share of Theraclone's and its Affiliates' Licensing Proceeds based on the time of receipt by them of the Licensing Proceeds as follows:

| TIME OF RECEIPT OF LICENSING PROCEEDS | PERCENTAGE OF LICENSING PROCEEDS TO BE PAID TO ZENYAKU |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

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All such payments for Licensing Proceeds shall be made by Theraclone to ZKC via wire transfer of immediately available funds within thirty (30) days of Theraclone's receipt of such Licensing Proceeds. Theraclone shall provide to Zenyaku, at the time of each such payment, a report reasonably detailing the nature and calculation of the Licensing Proceeds being paid. Notwithstanding the foregoing, for Licensing Proceeds in the form of a markup in excess of a [***] markup on the fully burdened costs of supply for bulk or vialed product (as more fully described in Section 8.1 below), such Licensing Proceeds shall be reportable and payable on a quarterly basis, within forty-five (45) days after the end of each calendar quarter in which this form of Licensing Proceeds is received.

**(b) Share of Net Sales Royalties**. With respect to royalties on net sales of Licensed Product solely in the Licensed Field in the Returned Royalty Territory, Theraclone shall pay to Zenyaku [***] of such royalties received by Theraclone and/or its Affiliates. The mechanics of payment for reporting and payment of such royalties shall be the same as in Section 6.1, applied *mutatis mutandis*.

**(c) Licensing Proceeds and Share of Net Sales Royalties Under Certain Assignments of This Agreement**. Without limiting Article 13, if Theraclone (in one or a series of related transactions) sells all or substantially all of its assets to a Third Party (including any Other Licensee), or enters into any merger or consolidation with or into a Third Party (including any Other Licensee) other than a merger or consolidation in which the holders of more than fifty percent (50%) of the shares of capital stock of Theraclone outstanding immediately prior to such transaction continue to hold (either by the voting securities remaining outstanding or by their being converted into voting securities of the surviving entity) more than fifty percent (50%) of the total voting power represented by the voting securities of Theraclone or such surviving entity outstanding immediately after such transaction (the initially mentioned merger or consolidation, an "**Acquisition**" and the acquiring party, the "**Acquiror**"), or such surviving entity enters into an Acquisition, Theraclone shall include as a condition of such Acquisition that Zenyaku shall receive the following: (i) if the Acquiror is an Other Licensee for all of the Retained Territory and the License Agreement to which the Other Licensee is a party provides for Licensing Proceeds and royalties on net sales for which Zenyaku is entitled to receive a share pursuant to subsections (a) and (b) above, Zenyaku shall receive at least what would have been due to Zenyaku as if such License Agreement had remained in place and all Licensing Proceeds and royalties had been paid under it, even if as a result of the Acquisition the underlying License Agreement is terminated (e.g., if a big-pharma Acquiror cancels the License Agreement after acquiring rights through a License Assignment in the form of an acquisition of Theraclone); and (ii) in all cases other than that of clause (i), if Theraclone at the time retains rights to sell Licensed Products for the Licensed Field in the Returned Royalty Territory (and thus the Acquiror obtains access to such rights through the Acquisition), then Theraclone shall require, as part of such Acquisition, that the Acquiror pay to ZKC royalties on annual Net Sales of Licensed Product (calculated on a Licensed Product-by-Licensed Product and country-by-country basis) for sales in countries in the Returned Royalty Territory during the applicable Royalty Term and at the base rates set forth in Section 5.7 and subject to the reductions, adjustments, and Royalty Terms as set forth in Sections 5.7 and 5.8 applied *mutatis mutandis*, and the mechanics of payment for reporting and payment of such royalties shall be the same as in Section 6.1, applied *mutatis mutandis*.

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**(d) Clarification Regarding Assignment**. For the sake of clarity with regard to Section 5.6(c)(i) and as a non-limiting clarification and example, the parties acknowledge that if Theraclone assigns this Agreement, the Patents related to this Agreement or any interest hereunder, such assignment meets the definition of a License Agreement giving rise to Licensing Proceeds, and the assigned Patents shall remain wholly subject to the terms and conditions of this Agreement, including the licenses to Zenyaku.

**5.7 Royalties for Licensed Product**.

**(a) Base Rates**. Royalties on annual Net Sales of Licensed Product (calculated on a Licensed Product-by-Licensed Product and country-by-country basis during the applicable Royalty Term in each country) in the Territory shall be paid to Theraclone by ZKC on the timing stated in Section 6.1 as follows:

| ANNUAL NET SALES OF LICENSED PRODUCT IN THE TERRITORY | ROYALTY |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

The royalty rates under this Section are incremental with respect to the annual Net Sales of the Licensed Product sold in the Territory. For example, by way of illustration, if annual Net Sales of a Licensed Product in the Territory is [***], ZKC will owe Theraclone [***], which is equal to: [***]. The royalty rates under this Section shall be subject to reduction in accordance with this Section 5.7.

**(b) Up-to-[***] Reduction for Patent Expiry or Generic or Biosimilar Competition**. Either of the following that is applicable, but not both as to royalties on the same Net Sales, shall apply:

(i) **Patent Expiry**. If there is no Valid Claim due to a Theraclone Patent or Pending Claim due to a Theraclone Patent Covering a given Licensed Product in the country of sale, the royalty rates under this Section shall be reduced by [***] of the amounts otherwise payable with respect to Net Sales of such Licensed Product in such country for the remainder of the Royalty Term in such country.

(ii) **Generic or Biosimilar Competition**. If a Generic Version of a Licensed Product enters the market in the Territory, the royalty rates under this Section shall be reduced by [***] for such Licensed Product in the Territory for the remainder of the Royalty Term for such Licensed Product in the Territory.

**(c) Combination Product Proportional Adjustment**. If any Licensed Product contains one or more active ingredients (including adjuvants) other than Licensed Antibody(ies) (such other active ingredients, "**Other Active Ingredients**" and such a product, a "**Combination Product**"), then [***]. In the first instance, [***] shall be as determined reasonably and in good faith by Zenyaku. Zenyaku shall disclose its determination of these values to Theraclone. Theraclone shall respond within thirty (30) days whether Theraclone agrees. If Theraclone disagrees, then the parties shall negotiate and either agree on such values in good faith, or, if thirty (30) additional days after Zenyaku's original disclosure the parties have not agreed in writing, then they shall, within thirty (30) days thereafter, engage an independent person with at least fifteen (15) years in senior management positions in the biopharmaceutical industry, including positions with responsibility for sales and marketing and/or finance. Such person (the "**Valuation Expert**") shall not be affiliated with or be an advisor to either of the parties. If the parties cannot agree as to who the Valuation Expert shall be within such time period, then the mechanism for selecting such person shall be the same as that used with the Patent Expert in Section 4.1(c). The procedures that shall be used with the Valuation Expert shall be the same as those used with the Patent Expert in Section 4.1(c). The Valuation Expert's findings as to the appropriate values for A and B shall be binding on both parties absent proven fraud and shall apply retroactively. The standard that the Valuation Expert shall apply to determine A and B shall be that each should represent the fair market value contribution of the Licensed Antibody and the Other Active Ingredient(s), respectively, to the value and selling price of the Combination Product.

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Royalties on Combination Products shall be due only on adjusted (as in this subsection) Net Sales, not actual Net Sales; provided, however, in no event shall adjusted (as in this subsection) Net Sales be less than [***] of actual Net Sales for purposes of determining royalty payments due under this Agreement.

**5.8 Royalty Term**. Subject to Section 5.11 of this Agreement and the second sentence of this Section, royalties shall be earned and paid to Theraclone until the later to occur, on a country-by-country and Licensed Product-by-Licensed Product basis, of (i) the date the last Valid Claim or Pending Claim Covering such Licensed Product expires (or otherwise ceases to be a Valid Claim or Pending Claim) in such country, determined on a Licensed Product-by-Licensed Product and country-by-country basis, and (ii) expiration of ten (10) years from Commercial Launch of such Licensed Product in such country, determined on a Licensed Product-by-Licensed Product and country-by-country basis (such period, the "**Royalty Term**" for that Licensed Product in that country). All Licensed Products containing the same Licensed Antibody(ies) are considered to be a single Licensed Product for purposes of this Section. In addition, if a Licensed Product is later incorporated into a Combination Product, this shall not restart the 10-year time period under clause (ii) of this Section.

**5.9 Currency**. Except as provided in Section 5.10 below regarding currency transfer restrictions, all amounts payable to Theraclone under this Agreement shall be payable in United States Dollars by wire transfer of immediately available funds to a bank account designated by Theraclone. Net Sales during a month shall be translated on a monthly basis from Japanese Yen to US Dollars by using an average rate of exchange of such month. This average shall be computed using the closing Telegraphic Transfer Selling (TTS) Rate of exchange quoted by the Tokyo-Mitsubishi Bank in Tokyo (or if it no longer exists its successor, or if no successor to it exists then a similarly reputable financial institution) as of the end of such month plus the rate as of the end of the prior month and dividing by two (2). A similar exchange mechanism shall be used for sales in other countries in the Territory.

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**5.10 Currency Transfer Restrictions**. If payment or transfer of funds out of a country in the Territory shall be prohibited by law or regulation, the parties hereto shall confer regarding the possibility of payment of royalties to Theraclone in local currency to a bank account in the prohibited country or the renegotiation of royalties for such sales, and in the absence of any other agreement by the parties, such funds payable to Theraclone shall be deposited in whatever currency is allowable by ZKC in an accredited bank in that country that is reasonably acceptable to Theraclone.

**5.11 Royalty Payments Upon Termination**. The parties' obligations with respect to payment of royalties after expiration or termination of this Agreement are set forth in Article 15 below.

**5.12 Withholding Tax**. All payments made by ZKC under this Agreement shall be made to Theraclone with the deduction of withholding tax (if any) imposed upon such payment. If requested by Theraclone, ZKC shall cooperate with Theraclone regarding the accurate characterization of payments so that it may take advantage of any and all benefits under any Japan-US Tax Treaty (or similar tax treaty for other countries in the Territory) and any filing fees or other governmental fees shall be at the cost and expense of Theraclone.

**5.13 Past Due Amounts**. Any past due payments under this Agreement shall accrue interest until paid at the greater of [***]. Notwithstanding the foregoing, if such rate is greater than the maximum rate permitted by law, then such rate will be reduced to the maximum rate permitted by law.

## 6. Reports, Payments and Accounting.

**6.1 Payments and Reports**.

**(a)** Beginning with the quarter of the first Commercial Launch in the Territory, ZKC agrees to make written reports (in a reasonable format) regarding the payments set forth in Section 5.7, to Theraclone within forty-five (45) days after the close of each calendar quarter during the term of this Agreement until the last Royalty Term expires. These reports shall show for such calendar quarter sales by ZKC, its Affiliates and Sublicensees of Licensed Product, the aggregate amount of gross invoices, the aggregate amount of deductions in each category (a)-(e) in the definition of Net Sales in Section 1, Net Sales and the royalties due to Theraclone pursuant to Section 5.7 and royalties due for Additional Technology pursuant to Section 4.1(c) and Section 4.1(f). Concurrently with the making of each such report, ZKC shall make payment to Theraclone of (i) amounts payable under Section 5.7 for the period covered by such report and (ii) all other amounts accrued under this Agreement which have not been previously paid as required, unless otherwise provided hereunder. All payments due to Theraclone by ZKC under this Agreement that are subject to withholding tax under the laws of Japan shall, in accordance with Section 5.12, be made net of Japanese (or other countries within the Territory, as applicable) withholding tax.

**(b)** Theraclone agrees to submit a detailed statement of account to ZKC within thirty (30) days after the close of each calendar quarter for any costs or expenses incurred during such calendar quarter related to patents and other expenses agreed to be paid or reimbursed by ZKC. The costs and expenses of patent filings shall be as set forth in Section 10.

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**(c)** Each party shall report quarterly to the other party within forty-five (45) days after the end of the calendar quarter on Licensing Proceeds or Sublicensing Proceeds received by the reporting party during such calendar quarter.

**6.2 Termination Report**. ZKC also agrees to make a written report (in a reasonable format) within ninety (90) days after the date on which ZKC, its Affiliates or Sublicensees sell the last Licensed Product on which a royalty is due under this Agreement, stating in such report the same information required for quarterly reports provided under Section 6.1 hereof.

**6.3 Accounting**. ZKC agrees to keep clear, accurate and complete records for a period of at least three (3) years for each reporting period in which sales of Licensed Product occur on which a royalty is due under this Agreement, in sufficient detail to determine amounts payable pursuant to Sections 5.7, 4.1(c) and 4.1(f) hereof. ZKC further agrees to permit such records to be examined from time to time (but not more than once a year or one time with respect to the same set of records) by an independent accounting firm selected and paid by Theraclone and reasonably satisfactory to ZKC. Such examination shall occur only on reasonable prior notice during regular business hours during the term of this Agreement and for three (3) years thereafter, provided, however, that such examination shall not (i) be of such records for more than the prior three (3) years, (ii) take place more often than once a year, or (iii) cover any such records which date prior to the date of the last examination, and provided further that such accountants shall report to Theraclone only as to the accuracy of the royalty statements and payments. Copies of such reports shall be supplied to ZKC. In the event the report demonstrates that ZKC has underpaid Theraclone, ZKC shall pay the amount of such underpayment immediately upon request of Theraclone and to the extent such underpayment is more than [***] otherwise due for the audited period, ZKC shall reimburse Theraclone for the expense of the audit. This Section shall apply *mutatis mutandis* with respect to Theraclone's obligation to keep (and ZKC's right to audit) records regarding the amounts payable by Theraclone to ZKC pursuant to Section 5.6.

**6.4 Confidentiality of Reports**. Each party agrees that the information set forth in (i) the reports required by Sections 6.1 and 6.2 and (ii) the records subject to examination under Section 6.3, shall be subject to Section 11 hereof and maintained in confidence by the receiving party and the applicable independent accounting firm, shall not be used by such party or such accounting firm for any purpose other than verification of the payments due under this Agreement, and shall not be disclosed by the receiving party or such accounting firm to any other person except for purposes of enforcing this Agreement, and except as allowed under Section 11.

## 7. Commercial Development.

**7.1 Diligence by ZKC**. Prior to the Start Time, and until and unless the Start Time occurs, Zenyaku shall have no diligence obligations express or implied under or in connection with this Agreement, at law or in equity. Beginning as of the Start Time (defined below in this Section), ZKC shall use Commercially Reasonable Efforts to develop and commercialize at least one (1) Licensed Product for the Licensed Field in the Territory. The scope of such development and commercialization activities shall include clinical development, seeking Regulatory Approval as warranted by the data, and providing for a reasonable Commercial Launch if Regulatory Approval is obtained in the Territory. The activities and achievements of any Affiliates and Sublicensee(s) shall be counted towards ZKC's satisfaction of its diligence obligations under this Agreement. The clinical work performed by or for Zenyaku under this Agreement shall be in accordance with the then-current Zenyaku Development Plan shared with Theraclone as described in Article 2. It is understood and agreed that, because Zenyaku's development program for the Territory will likely commence after the results of successful Phase II Clinical Trials in a country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH (by or for Theraclone) are known and Phase III Clinical Trials commence in a country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH: (a) other than JSC participation, Zenyaku is not required to commence development under this Agreement until after the first patient is dosed in a Phase III Clinical Trial of Licensed Product ("**Start Time**") (although Zenyaku may choose to do so); (b) Zenyaku shall disclose its initial Development Plan to Theraclone on the timeline as stated in Section 2.1; and (c) review and discussion of the Zenyaku Development Plan shall be as provided for in Article 3 (with Zenyaku retaining decision making authority as provided for in that Section).

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**7.2 Diligence by Theraclone**. Theraclone shall use Commercially Reasonable Efforts to (i) develop the Lead M2e Candidate Antibody and the Lead HA Candidate Antibody to the extent set forth in the original Theraclone Development Plan attached to this Agreement at signing through Phase I Clinical Trials, (ii) take either the Lead M2e Candidate Antibody or the Lead HA Candidate Antibody (or another Licensed Antibody or combination product as agreed to by the JSC) past Phase I Clinical Trials, and (iii) seek Regulatory Approval for either the Lead M2e Candidate Antibody or the Lead HA Candidate Antibody (or another Licensed Antibody or combination product as agreed to by the JSC) for the U.S. market or other country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH. The activities within the scope of the foregoing diligence obligation include preclinical testing, Phase I Clinical Trials, Phase II Clinical Trials, Phase III Clinical Trials, and seeking Regulatory Approval in the U.S., or other country whose Regulatory Authorities subscribe to (and in accordance with the guidelines established by) the ICH, each to the extent reasonably supported by the data from clinical testing. Subject to the foregoing, Theraclone's efforts in accordance with this Section shall include performing activities at least commensurate with the activities set forth in the Theraclone Development Plan as of the Effective Date. For purpose of clarity, Theraclone is only obligated to use Commercially Reasonable Efforts to take a total of one (1) product candidate past Phase I Clinical Trials.

**7.3 Theraclone Development Plan Timeline**. If Theraclone fails to meet the timing for any of the timing goals set forth in the Theraclone Development Plan, the parties shall meet to discuss the reason for this, and how Theraclone may overcome any impediments that have prevented Theraclone from meeting such timing, and a revised timeline for Theraclone to achieve the events described in the Theraclone Development Plan as soon as is reasonably practicable by the application of Commercially Reasonable Efforts. Within 30 days after the meeting, Theraclone shall submit a written plan (including a revised timeline) to do so to Zenyaku. If Zenyaku has any comments or questions, Zenyaku may request (and both parties shall promptly participate in) another meeting, and Theraclone shall provide within 15 days after such meeting a revised version of the plan, reasonably addressing Zenyaku's comments. The timeline set forth in the thus-revised plan shall from that point forward be the timeline that Theraclone is required to use Commercially Reasonable Efforts to try to meet.

**8. Supply; Distribution of Sample Product.**

**8.1** Theraclone shall be responsible for supplying the Licensed Products in bulk or vialed unlabelled form to ZKC, and ZKC shall pay Theraclone for such Licensed Product at a rate equal to Theraclone's Fully Burdened Manufacturing Cost (as defined in the Supply Agreement) [***], all as set forth in more detail and pursuant to the terms and conditions of a Supply Agreement in the form attached hereto as Exhibit F ("**Supply Agreement**") and subject to reductions as set forth therein. ZKC shall use all materials provided to ZKC by Theraclone hereunder or under the Supply Agreement in compliance with all applicable foreign, federal, state or local laws and regulations. In creating the scaled up commercial manufacturing process for bulk Licensed Product, Theraclone shall use Commercially Reasonable Efforts to achieve a commercially reasonable manufacturing cost for Licensed Product.

**8.2** Without limiting the licenses and other rights granted to ZKC under this Agreement, ZKC may transfer Licensed Product to a Third Party according to the following.

**(a)** Prior to Commercial Launch, ZKC may request that Theraclone (and Theraclone shall), or ZKC may itself, transfer reasonable amounts of Licensed Product to academic researchers outside the Territory in connection with the performance of non-clinical studies related to the Development Plans, subject to Joint Steering Committee approval and execution of a material transfer agreement as agreed to by the Joint Steering Committee.

**(b)** Prior to Commercial Launch, ZKC may transfer Licensed Product for use in clinical trials in the Licensed Field in the Territory or for other purposes in furtherance of Licensed Product development.

**(c)** Subject to all terms and conditions set forth in this Agreement, following Regulatory Approval of commercial sales in the Territory, there is no restriction on ZKC's right to transfer Licensed Product to Third Parties in the Territory.

**(d)** ZKC may transfer amounts of Licensed Product to Affiliates and Sublicensees at any time.

**9. Inventions.**

Product Inventions that arise from the performance of Licensed Antibody and/or Licensed Product development and that are made by Theraclone solely or jointly (other than with an employee or agent of ZKC) ("**Theraclone Inventions**") shall be owned by Theraclone.

Product Inventions which are made jointly by employees or agents of Theraclone and ZKC during the term of this Agreement shall be jointly owned by Theraclone and ZKC and treated as joint inventions (collectively, "**Joint Inventions**"). The nature of such joint ownership shall be that each party having the rights of co-inventors named on U.S. Patents under U.S. patent laws in the absence of a written agreement (including the right to practice the invention without having to obtain consent from and without having any duty of accounting to the other party; and including the right to license others to do the same, without having to obtain consent from and without have any duty of accounting to the other party), except solely to the extent explicitly provided to the contrary in this Agreement (including without limitation Section 10.1).

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Product Inventions that arise from the performance of Licensed Antibody and/or Licensed Product development and that are made by an employee or agent of ZKC during the term hereof, solely or jointly, other than with an employee or agent of Theraclone, shall be owned by ZKC (collectively, "**ZKC Inventions**").

For purposes of this Section, "made by" shall mean, with respect to a party, that such party has (meaning that it or its Affiliate it employs or has engaged as a consultant) at least one (1) person who would be a properly named inventor on the U.S. Patent claiming such Product Invention, and "made jointly by" shall mean that Theraclone and ZKC each have (meaning that each employs or has engaged as a consultant, or its Affiliate has done so) at least one (1) person who would be a properly named inventor on the U.S. Patent claiming such Product Invention.

Except as otherwise set forth in this Agreement, ZKC and Theraclone shall retain their respective unrestricted rights to all inventions and discoveries that are owned by them.

**10. Patents; Prosecution and Litigation.**

**10.1 Prosecution**.

**(a) Theraclone Patents**. Theraclone shall have the right to prosecute and maintain all Theraclone Patents as provided in this Section 10 and shall do so in a timely manner. Theraclone shall promptly disclose in writing to ZKC the complete texts of all Theraclone Patents as well as promptly provide ZKC with, and promptly notify ZKC of, all information and material correspondence given or received concerning the institution or possible institution of any interference, opposition, re-examination, reissue, revocation, nullification or any official proceeding involving any Patent licensed herein. Theraclone agrees to keep ZKC promptly (in any event at least thirty (30) days in advance of any submission by Theraclone) and fully informed of the course of Patent prosecution or other proceedings with the applicable patent offices regarding the Patents licensed herein, including by providing ZKC with copies of all communications, search reports and Third Party observations submitted to or received from such patent offices. ZKC shall have the right to review all such Patents, communications and other proceedings (and, where such Patents, material communications and other proceedings are submitted by Theraclone, Theraclone shall allow for such review to be reasonably in advance of their submission) and make recommendations to Theraclone concerning them and their conduct in the Territory (and Theraclone shall incorporate such comments, to the extent reasonably practicable, in its communications and filings with such patent offices). ZKC shall hold all information disclosed to it under this Article 10 as Confidential Information under Article 11. ZKC shall reimburse Theraclone, within forty-five (45) days of receipt of invoice, for (a) reasonable and documented costs incurred prior to the Effective Date up to [***] and (b) reasonable and documented costs incurred after the Effective Date, in each case of (a) and (b) for the filing, prosecution and maintenance of the Theraclone Patents in the Licensed Field in the Territory that contain claim(s) directed to the Licensed Antibodies and/or Licensed Products in the Licensed Field. To be clear, such reasonable and documented costs shall be only those costs applicable to filing, prosecution and maintenance of the Theraclone Patents for the Territory (i.e., costs representing a fair and proper allocation in consideration of the market size of the Territory relative to the Retained Territory). In addition, ZKC shall pay Theraclone, within forty-five (45) days of receipt of invoice, an amount equal to [***] of the reasonable and documented costs incurred by Theraclone for the filing, prosecution, and maintenance of (a) Patent Cooperation Treaty patent applications and (b) if a Patent Cooperation Treaty patent application that designates Japan claims priority to a provisional patent application filed with the United States Patent and Trademark Office, then such provisional patent application filed with the USPTO; in the case of each (a) and (b), only if they contain claim(s) directed to the Licensed Antibodies and/or Licensed Products. Reimbursement under the foregoing sentence shall not exceed [***] per patent family. All expenses to be paid or reimbursed by ZKC pursuant to this Section shall be obligations that are separate and apart from other payment obligations described in this Agreement and shall be invoiced and paid separately.

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**(b)** **Joint Patents**. Each party shall have the right but not the obligation to file, prosecute and maintain the Joint Patents in such party's territory. Each party shall bear its own cost in connection therewith. The parties shall mutually agree which party shall file the first priority filing for each Joint Patent.

**(c)** **Zenyaku Patents**. If Theraclone requests on a case-by-case basis with respect to each ZKC Patent, Theraclone shall have the right to prosecute the ZKC Patents in the Retained Territory. Zenyaku shall have an approval right over such prosecution. Otherwise, the procedures shall be as provided in Section 10.1(a). All costs incurred by Theraclone with respect to such prosecution shall be at Theraclone's sole expense and not subject to reimbursement by Zenyaku.

**10.2** **Abandonment**. In the event Theraclone wishes to finally abandon any Theraclone Patent, or part of a Theraclone Patent, in either case in the Territory, then it shall notify ZKC at least thirty (30) days before the deadline upon which the Theraclone Patent would otherwise go abandoned if action were not taken, and ZKC shall have the right at its own expense to assume (and Theraclone shall assign to ZKC) all rights to any such Patent or part thereof in the Territory; *provided*, *however*, ZKC's rights under this Section 10.2 shall in all respects be subject to the rights of Theraclone's Third Party licensor(s) of such Patent or part of a Patent (if any). In the event ZKC wishes to finally abandon any ZKC Patent, or part of a ZKC Patent, in either case in the Retained Territory, then it shall notify Theraclone at least thirty (30) days before the deadline upon which the ZKC Patent would otherwise go abandoned if action were not taken, and Theraclone shall have the right at its own expense to assume (and ZKC shall assign to Theraclone) all rights to any such Patent or part thereof in the Retained Territory.

**10.3** **Accused Infringement of Third-Party Patents**. In the event of the initiation of any suit or claim by a Third Party against Theraclone, ZKC or any Affiliate of either for patent infringement with respect to the manufacture, use, sale, distribution or marketing of the Licensed Products in the Licensed Field in the Territory, the party sued or claimed shall promptly notify the other party in writing. The party sued has the right to defend itself Each party shall assist and cooperate with the other party, in any such litigation, at the defending party's request and expense, as applicable.

Theraclone shall not enter into any settlement with respect to such suit or claim without ZKC's written consent, which consent shall not be unreasonably withheld, delayed, or conditioned. ZKC shall not enter into any settlement with respect to such suit or claim without Theraclone's consent, which consent shall not be unreasonably withheld, delayed, or conditioned.

Each party shall be responsible to pay its costs in connection with these suits, except to the extent any particular costs (such as a settlement involving a license for Additional Technology) are allocated to a given party elsewhere in this Agreement or a party has an obligation to indemnify for breach of a representation and warranty under Article 14.

If a party wishes to bring a claim for patent infringement of a Theraclone Patent or a Joint Patent as a defense to a claim by a Third Party of patent infringement (as described in the foregoing paragraph), then the procedure of Section 10.4 must be followed first.

This Section 10.3 shall in no way limit a party's indemnification rights or obligations in Article 16, including a party's rights to tender defense of a Third Party Claim for which such party is entitled to be indemnified and defended under such Article.

**10.4 Infringement of Parties' Patents by Third Parties**.

**(a) Notification**. Each party shall promptly notify the other party in writing if the notifying party reasonably believes that any Theraclone Patent or Joint Patent is being or has been infringed or misappropriated by a Third Party (such infringement, together with any that may be imminently threatened to occur by any potential Generic Version of a Licensed Product arising under the implementing procedures of 35 U.S.C. 271(e)(2) or ex-U.S. equivalent, "**Infringement**").

**(b) License-Competitive Infringement of Theraclone Patents or Joint Patents**.

(i) **First Right**. ZKC shall have the first right, but not the obligation, to enforce the Theraclone Patents and Joint Patents against Infringement through activities or conduct of a Third Party in the Licensed Field in the Territory that if conducted by ZKC would be within the scope of the licenses granted to ZKC in Section 4.1(a) ("**License-Competitive Infringement**"). ZKC shall reasonably consider Theraclone's comments on any such enforcement activities. Except as provided in subsection (d) (regarding settlement) or in subsection (g) (regarding allocation of proceeds), ZKC shall bear all costs and expenses for enforcement under this Section 10.4(b)(i) (including the costs of Theraclone's cooperation as required under subsection (e)).

(ii) **Back-up Right for License-Competitive Infringement of Theraclone Patents or Joint Patents**. If ZKC does not bring action to prevent or abate License-Competitive Infringement within one hundred twenty (120) days (or twenty (20) days in the case of an action brought under any ex-U.S. equivalent of the Hatch-Waxman Act in the Territory) after notification thereof to or by ZKC pursuant to Section 10.4(a), then Theraclone shall have the right, but not the obligation, to bring, at its own expense, an appropriate action against any person or entity engaged in such License-Competitive Infringement directly or contributorily. However, Theraclone shall not initiate legal action without first conferring with ZKC and considering in good faith ZKC's reasons for not bringing any such action.

(iii) **Proceeds**. Recoveries on suits under this Section 10.4(b) will be handled as provided in Section 10.4(g).

**(c) Participation of the other Party with Respect to Infringement Suits**. If a party brings an action against infringement under Section 10.4(b), the other party shall be entitled to separate representation in such matter by counsel of its own choice and at its own expense, and such party shall cooperate fully with the party bringing such action including by being joined as a party plaintiff if necessary to obtain standing for such action (all at the expense on a pass-through basis of the prosecuting party).

**(d) Settlement**. Theraclone shall not settle a claim brought under this Section 10.4 in a manner that would limit or restrict the ability of ZKC to sell Licensed Products for use in the Licensed Field, impair the exclusivity of ZKC's license rights under this Agreement, or otherwise limit or restrict the ability of ZKC to fully enjoy the benefits of the exclusive licenses to ZKC in this Agreement, in each case without the prior written consent of ZKC (which consent shall not be unreasonably withheld, conditioned or delayed). ZKC shall not settle a claim brought under this Section 10.4 involving Theraclone Patents or Joint Patents in a manner that would limit or restrict the ability of Theraclone to sell, practice, license and fully enjoy the benefits of the Theraclone Patents or Joint Patents outside the scope of the exclusive licenses to ZKC in this Agreement or that shortens the life of the Theraclone Patents or Joint Patents or that would narrow their scope, in each case without the prior written consent of Theraclone (which consent shall not be unreasonably withheld, conditioned or delayed).

**(e) Cooperation**. Each party shall reasonably cooperate with the other party in any and all suits under Section 10.4(b), at the expense of the party bringing suit (on a purely pass-through basis), including being joined in name as a party plaintiff if needed to maintain standing.

**(f) Clarification**. Notwithstanding anything express or implied in this Agreement, Theraclone shall not have any right to enforce the ZKC Patents except to the extent set forth in Section 10.4(h).

**(g) Allocation of Proceeds**. If monetary damages are recovered from any Third Party in an action brought by a party under Section 10.4(b), such recovery shall be allocated first to the reimbursement of any costs and expenses incurred by the party controlling such litigation (including, for this purpose, a reasonable allocation of expenses of internal counsel or other personnel acting in such capacity (i.e., coordination of litigation matters and the like)), to the extent not previously reimbursed, and then the same costs and expenses of the non- controlling party (to the extent not previously reimbursed by the controlling party), and any remaining amounts shall be split as follows:

(i) if ZKC exercised its first right to bring the suit, then the rest of the remaining recovery (1) to the extent not representing treble or punitive damages shall be allocated to Theraclone in an amount equal to the royalty that would have been payable to Theraclone under Section 5.7 if ZKC had made Net Sales equivalent to the actual sales that underlie the remaining recovery, with the remaining portion of the remaining recovery that does not represent treble or punitive damages being allocated to ZKC; and (2) to the extent representing treble or punitive damages shall be allocated [***] to Theraclone and [***] to ZKC;

(ii) if instead Theraclone exercised its back-up right to enforce, then the rest of the remaining recovery shall be allocated to Theraclone in the same amount as under subsection (i) ZKC would have received if ZKC had brought the suit, with the remainder under this subsection (ii) being allocated to ZKC; provided, however that in such case the allocation under Section 10.4(g)(i)(2) shall be [***] to Theraclone and [***] to ZKC; and

(iii) the portion of any remaining amounts that represents recoveries for Infringement of Joint Patents shall be split [***] to the party that controlled the suit and [***] to the other party.

**(h)** Sections 10.4(b)-(g) shall apply *mutatis mutandis* to the enforcement of the ZKC Patents and Joint Patents in the Retained Territory, except that Theraclone shall have the first right to enforce such Patents in the Retained Territory.

**(i)** The parties shall keep one another informed of the status of their respective activities regarding any litigation or settlement thereof concerning a Licensed Product or Licensed Antibody.

**(j)** Only the enforcement rights specifically set forth in this Section 10.4 are granted. No other rights to enforce Patents licensed under this Agreement, express or implied, are granted or available under this Agreement.

**10.5 Patent Term Extensions**. If requested by Zenyaku, Theraclone shall use its Commercially Reasonable Efforts and cooperate with ZKC to extend the term of Theraclone Patents and Joint Patents in the Territory, including by providing necessary information and assistance as ZKC may reasonably request. If requested by Theraclone, ZKC shall use its Commercially Reasonable Efforts and cooperate with Theraclone to extend the term of ZKC Patents, including by providing necessary information and assistance as Theraclone may reasonably request.

## 11. Confidentiality; Publicity; Publications.

**11.1 Disclosure of Inventions**. To the extent not already provided for elsewhere in this Agreement, each party shall promptly report to the other party (no less frequently than quarterly) as to all Theraclone Product Inventions, Joint Product Inventions, or ZKC Product Inventions invented by or for the disclosing party and not previously disclosed to the other party under this Agreement. Additional data and other Know-How disclosure requirements are as set forth elsewhere in this Agreement.

***Confidential Treatment Requested.**

**11.2 Adverse Drug Events**. The parties recognize that each may be required to submit information and file reports to various governmental agencies on compounds under clinical investigation, compounds proposed for marketing, or marketed drugs. In this regard, information must be submitted at the time of initial filing for investigational use in humans and at the time of a request for market approval of a new drug. In addition, supplemental information must be provided on compounds at periodic intervals and adverse drug experiences must be reported at more frequent intervals depending on the severity of the experience. Consequently, each party agrees to: (a) provide to the other party for initial and/or periodic submission to government agencies significant information on the Licensed Products from preclinical laboratory, animal toxicology and pharmacology studies, as well as adverse drug experience reports from clinical trials and commercial experiences with the Licensed Products; (b) in connection with investigational use of the Licensed Products, report to the other party within fifteen (15) calendar days of the initial receipt of a report of any related, unexpected serious adverse event with the Licensed Products or concurrently with the reporting of such experience to a regulatory agency, if sooner than fifteen (15) calendar days, or sooner if required for any party to comply with regulatory requirements; and (c) in connection with commercial use of the Licensed Products, report to the other party within fifteen (15) calendar days of the initial receipt of a report of any adverse experience with the Licensed Products that is serious and unexpected or sooner if required for any party to comply with regulatory requirements. Serious adverse experiences mean any experience that is fatal or life-threatening, is permanently disabling, requires or prolongs inpatient hospitalization, or is a congenital anomaly. Other important medical events may be considered serious if medical or surgical intervention is required to prevent one of the outcomes listed above. An unexpected adverse experience is one not identified in nature, specificity, severity or frequency in the current investigator brochure or the United States labeling for the Licensed Products. Each party also agrees that if it contracts with a Third Party for research to be performed by such Third Party on the Licensed Products, that party agrees to require such Third Party to report to the contracting party the information set forth in subparagraphs (a), (b) and (c) above, and such contracting party shall provide this information to the other party. This applies equally to the parties' Affiliates, Sublicensees and Other Licensees.

In any event, notwithstanding anything express or implied in this Agreement, the parties shall report to each other on safety data and safety information on a timetable and within a scope that is sufficient to allow both parties to satisfy their reporting obligations to Regulatory Authorities having jurisdiction over such party's activities under this Agreement. If the foregoing paragraph does not provide for sufficiently broad or sufficiently rapid disclosures so as to allow for this, then the parties shall enter into a separate pharmacovigilance/safety agreement that does meet such standard. The parties shall work mutually and in good faith to finalize such agreement well in advance of both parties sponsoring human clinical trials of Licensed Product at the same time. If they are unable to agree on the details, then they shall engage a regulatory expert not affiliated with either company, and such person shall prepare the final protocol for the data exchange addressed by this Section, and this shall be the protocol that the parties shall use, and shall replace the first paragraph of this Section. The parties shall share 50:50 the fees of such expert. Both parties recognize that such a protocol might provide for electronic transfer of data (which may be in a then-standard format for such exchanges prevailing in the industry now or at the time), and for disclosure to occur more quickly than provided for in the foregoing paragraph.

As of the Effective Date, each party shall maintain its own safety database. The parties shall discuss in good faith, and may mutually agree, for either party to maintain a single global safety database for Licensed Product. If they reach subsequent written agreement for such a single global safety database, then that agreement shall be the agreement that will be followed by the parties. Any such agreement will provide all relevant details as to operational and financial responsibilities for maintaining such database, as well as each parties' rights to access, and to maintain a "shadow" copy of the global safety database. In addition, such agreement will provide for a cost sharing arrangement for such database.

Each party shall have the right to report Confidential Information of the other party to the Regulatory Authority in the reporting party's territory in furtherance of activities for which the reporting party is licensed under this Agreement.

**11.3 Confidential Information**. During the term of this Agreement and for five (5) years thereafter, irrespective of any termination earlier than the expiration of the term of this Agreement, the party receiving Confidential Information of the other party (such recipient, the "**Receiving Party**" and such discloser, the "**Disclosing Party**") shall not use or reveal or disclose to any Third Party any proprietary or confidential information received from the Disclosing Party or otherwise developed by the Disclosing Party in the performance of activities in furtherance of this Agreement that by its nature or content, or the context of disclosure, might reasonably be expected to be confidential ("**Confidential Information**"), without first obtaining the written consent of the Disclosing Party, except as may be otherwise provided herein, or for the purpose of exercising the Receiving Party's rights or performing its obligations under this Agreement, or to the Disclosing Party's investors or potential investors, consultants, contractors, accountants, and legal counsel who are bound by confidentiality and limited use obligations commensurate to the ones in this Agreement, or for securing essential or desirable authorizations, privileges or rights from governmental agencies, or as may be required to be disclosed to a governmental agency, or as necessary to file or prosecute patent applications concerning the Licensed Products or as otherwise required by applicable law and/or regulations. This confidentiality obligation shall not apply to such Confidential Information of the Disclosing Party which is or becomes a matter of public knowledge through no act or omission of the Receiving Party, or is already in the possession of the Receiving Party without obligation of confidentiality, or is disclosed to the Receiving Party by a Third Party having the right to do so without obligation of confidentiality to the Disclosing Party, or is subsequently and independently developed by employees of the Receiving Party who had no knowledge of the Confidential Information disclosed. The parties shall take at least commercially reasonable measures to assure that no unauthorized use or disclosure is made by those to whom access to such Confidential Information is granted.

Disclosures by a party's Affiliate, Sublicensee or Other Licensee shall for purposes of this Article be deemed to be disclosures by the corresponding party to this Agreement.

**11.4 Permitted Disclosures**. Nothing herein shall be construed as preventing ZKC from disclosing any Confidential Information received from Theraclone to any ZKC Affiliate, Sublicensee, distributor, contractor, consultant or permitted manufacturer of ZKC, provided such entity is bound in writing by obligations of confidentiality and limited use with respect to the Confidential Information commensurate to those in this Agreement. Nothing herein shall be construed as preventing Theraclone from disclosing any Confidential Information received from ZKC related to the Development Plans, the Theraclone Patents and the Joint Patents, or otherwise, to any Theraclone Affiliate, permitted manufacturer, consultant, contractor, distributor, or Theraclone's additional partners for the development, manufacturing, and commercialization of Licensed Products in the Licensed Field outside of the Territory, provided that such Affiliate or partner are bound in writing by confidentiality and limited use obligations with respect to such Confidential Information commensurate to those of this Agreement.

A Receiving Party shall be entitled to disclose Confidential Information of a Disclosing Party to the extent required by law, regulation or court order. First, however, the Receiving Party must notify the Disclosing Party in writing of the disclosure obligation, and if requested by the Disclosing Party, seek confidential treatment or a protective order within a commercially reasonable timeframe to maintain the confidentiality of the applicable Confidential Information (or assist the Disclosing Party in seeking such confidential treatment or protective order). Public filing of this Agreement, however, shall be per Section 11.5, not this Section 11.4.

**11.5 Terms of Agreement**. The terms of this Agreement shall be treated as the Confidential Information of both parties. If a party is legally required to file publicly a copy of this Agreement, then it shall seek confidential treatment of the competitively sensitive terms of this Agreement, and no later than 30 days prior to the intended filing date, that party shall share with the other party what redactions the filing party intends to make from the upcoming filing. If the non-filing party requests additional redactions within three (3) weeks, then the filing party shall make such additional redactions, unless confidential treatment is manifestly unavailable based on advice from the filing party's outside counsel. If the securities regulatory authority will not permit all the redactions, or has comments, then the filing party shall work with the non- filing party to seek to justify or obtain the confidential treatment by answering the comments, if requested by the non-filing party.

**11.6 Bankruptcy Procedures**. All Confidential Information disclosed by one party to the other shall remain the intellectual property of the Disclosing Party. In the event that a court or other legal or administrative tribunal, directly or through an appointed master, trustee or receiver, assumes partial or complete control over the assets of a party to this Agreement based on the insolvency or bankruptcy of or any other similar insolvency event with respect to such party, the bankrupt or insolvent party shall promptly notify the court or other tribunal (i) that Confidential Information received from the other party under this Agreement remains the property of the other party and (ii) of the confidentiality obligations under this Agreement. In addition, the bankrupt or insolvent party shall, to the extent permitted by law, take all commercially reasonable steps necessary or desirable to maintain the confidentiality of the other party's Confidential Information and to insure that the court, other tribunal or appointee maintains such Confidential Information in confidence in accordance with the terms of this Agreement.

**11.7 Publicity**.

**(a)** The parties to this Agreement may disclose the nature and general terms of the Agreement in a mutually agreed upon press release following signature after due consultation with the other party. The wording of any press release must be agreed by both parties in advance of its release; provided that such agreement is not unreasonably withheld or delayed by either party. Notwithstanding the foregoing, each party shall have the right to issue press releases immediately and without prior consent of the other to the extent required by the rules and regulations of the Securities and Exchange Commission or similar federal, state or foreign authorities, as determined in good faith by the disclosing party with advice from outside counsel, and subject at all times to the confidentiality obligations in Section 11.3 and working with the other party to arrive at a mutually acceptable text (such acceptance shall not be unreasonably withheld or delayed).

**(b)** Neither party shall publish or provide public disclosure of information or inventions arising from the performance of the Development Plans or otherwise related to the activities contemplated by this Agreement (a "**Dissemination**") without at least ninety (90) days prior written notice of such planned publication or disclosure sent to the other party. In the event any such Dissemination is reasonably determined by the other party to include its Confidential Information or affect its intellectual property position, the disseminating party shall delay such publication for a period sufficient, but in no event greater than an additional sixty (60) days, to allow the other party to take the steps necessary to protect such Confidential Information or intellectual property position, including the filing of any patent applications and/or deletion of its Confidential Information. Nothing in this Section 11.7(b) shall diminish a party's rights to make legally required disclosures as provided for in Section 11.4.

**12. Governing Law; Arbitration.**

This Agreement shall be governed by the laws of the State of New York, USA, without regard to conflicts of law principles. Prior to engaging in any formal dispute resolution with respect to any dispute, controversy or claim arising out of or in relation to this Agreement or the breach, termination or invalidity thereof (each, a "**Dispute**"), the designated officers of the parties (for ZKC, an officer at the level of Vice President or above; for Theraclone, its CEO) shall attempt for a period of not less than sixty (60) days to resolve such Dispute. Any Dispute that cannot be settled amicably by agreement of the parties pursuant to the preceding sentence, shall be finally settled by arbitration in accordance with the arbitration rules of the American Arbitration Association ("**AAA**"), then in force, as modified by this Section, by a panel of three arbitrators if the amount alleged to be in controversy exceeds [***] and otherwise by a single arbitrator. The arbitrator or arbitrators shall be appointed in accordance with said rules, provided that the appointed arbitrators shall have appropriate experience in the biopharmaceutical industry. The language of the arbitration shall be in English, and the place of arbitration shall be New York, New York, USA. The award rendered shall be final and binding upon both parties. Each party shall pay its own costs incurred in participating in the arbitration, except that the parties shall split 50:50 the administrative costs of the arbitration; provided, however, that the judgment rendered by the arbitrator(s) may include costs of arbitration, reasonable attorneys' fees and reasonable costs for any expert and other witnesses. The arbitrators in such proceeding may expressly consider the amounts paid or payable pursuant to this Agreement in considering any claim of damages. Nothing in this Agreement shall be deemed as preventing either party from seeking injunctive relief (or any other provisional remedy) from any court having jurisdiction over the parties and the subject matter of the dispute as necessary to protect either party's name, proprietary information, trade secrets, know-how or any other proprietary rights. Judgment upon the award may be entered in any court having jurisdiction, or application may be made to such court for judicial acceptance of the award and/or an order of enforcement as the case may be.

***Confidential Treatment Requested.**

**13. Assignment.**

Neither this Agreement nor any interest hereunder shall be assignable by either party without the written consent of the other; *provided*, *however*, that either party may assign this Agreement and all of such party's Patents related to this Agreement to any of such party's Affiliates (for so long as such Affiliate remains Affiliated with such party) or to any corporation or other entity with which such party may merge or consolidate (regardless of who is the surviving entity of such merger or consolidation), and/or to any corporation or other entity to which such party may transfer all or substantially all of such party's assets to which this Agreement relates or all or substantially all of such party's stock, without obtaining the consent of the other party. Transfer in contravention of this Section 13 shall be considered a material breach of this Agreement pursuant to Section 15.4 below. Subject to other provisions of this Section 13, all rights and obligations under this Agreement and the licenses herein granted shall be binding upon and inure to the benefit of the successors in interest of the respective parties. Any assignment in violation of the foregoing shall be null and void.

To avoid doubt, this Section 13 shall not limit a party's ability to extend to its Affiliates, Sublicensees and Other Licensees the benefits of this Agreement in the territory applicable to that entity (including the right to attend JSC and JCC meetings, to comment on patent prosecution, to receive supply and reports directly, and the like).

**14. Warranties, Representations and Covenants.**

**14.1** Each party represents and warrants that it has the right to enter into this Agreement, and that this Agreement is a legal and valid obligation binding upon such party and enforceable in accordance with its terms, and that it has been authorized by all requisite corporate action within such party.

**14.2** Theraclone represents and warrants that (i) to the best of its knowledge as of the Effective Date Theraclone's issued patents within the Theraclone Patents existing as of the Effective Date hereof are valid and enforceable and the practice of them does not and will not infringe the intellectual property rights of others, (ii) to the best of its knowledge as of the Effective Date Theraclone's patent applications within the Theraclone Patents existing as of the Effective Date (x) contain patentable subject matter and (y) the practice of their subject matter does not and will not infringe the intellectual property rights of others, (iii) Theraclone owns or has the right to license to ZKC (and hereby covenants that it will continue to have such right throughout the term of this Agreement) on the terms and conditions of this Agreement the Theraclone Listed Patents, the other Theraclone Patents on and the Theraclone Know-How free and clear of any liens, restriction on use or encumbrances of any nature whatsoever, (iv) no Third Party has any right to research, develop, use, have used, sell, offer for sale, have sold, keep and import the Licensed Products in the Licensed Field in the Territory, (v) to the best of its knowledge as of the Effective Date, the distribution, sale, marketing, and import of the Licensed Products by ZKC in the Territory does not infringe the intellectual property rights of Third Parties, (vi) there are no pending infringement actions or other litigation actions, either actual or threatened, relating to the Licensed Products, Theraclone Patents or Theraclone Know-How, (vii) other than as set forth on Exhibit G, Theraclone and its Affiliates are not parties to any agreement with any Third Party under which Theraclone or its Affiliate will owe the Third Party money with respect to this Agreement, Zenyaku's payments under this Agreement, or the development or commercialization of Licensed Antibody(ies) or Licensed Product(s) under this Agreement, including Third Party(ies) holding intellectual property rights relating to or Covering the manner in which any Licensed Antibody was discovered, (viii) as of the Effective Date, other than the Patents listed in Exhibit G, all Theraclone Patents are owned by Theraclone and no Theraclone Patent has been in-licensed, (ix) Theraclone's arrangements entered into as of the Effective Date for the research provided for in Section 5.4 grant Theraclone ownership or other Control of all Know-How generated, and all Patents on inventions generated, pursuant to such research (and Theraclone hereby covenants to use commercially reasonable efforts so that the same shall be true with respect to its future research and development arrangements entered into in connection with the research provided for in Section 5.4), and (x) with respect to those agreements set forth in Exhibit G, Theraclone has not received any notice of being in breach of any such agreement and knows of no reason why it would receive such a notice.

Theraclone hereby covenants that (1) both as to the agreements listed in Exhibit G and if the Theraclone Patents in the future include Patents with respect to which Theraclone or its Affiliate has acquired (including licensing) rights from any Third Party, then Theraclone shall (and shall cause its Affiliates to) use Commercially Reasonable Efforts to comply fully with and maintain in full force and effect the agreement with the Third Party(ies) governing such acquisition (including licenses), not take any action that would allow the Third Party(ies) to terminate such an agreement, and disclose within five (5) days to Zenyaku any notice of breach received by Theraclone or its Affiliate (and if not cured by Theraclone by one half of the way through the cure period then Zenyaku shall have the right to cure on Theraclone's behalf, and in such event Zenyaku shall be entitled to credit the costs of such cure against payments otherwise due Theraclone under this Agreement), and (2) Theraclone shall not (and shall cause its Affiliates not to) during the term of this Agreement enter into any conflicting agreement or arrangement with any Third Party or any agreement or arrangement with any Third Party that would impair or diminish Zenyaku's rights under this Agreement.

**14.3** TO THE EXTENT PERMITTED BY APPLICABLE LAW, THERACLONE MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE EXPRESSLY SET FORTH ABOVE IN THIS SECTION 14. ZKC MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE EXPRESSLY SET FORTH ABOVE IN THIS SECTION 14.

**14.4 Limited Liability**.

EXCEPT WITH RESPECT TO A PARTY'S INDEMNIFICATION OBLIGATIONS UNDER THIS AGREEMENT OR BREACH OF THE CONFIDENTIALITY OBLIGATIONS IN SECTION 11, IN NO EVENT WILL EITHER PARTY HERETO BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES SUFFERED BY THE OTHER PARTY ARISING IN ANY WAY OUT OF THIS AGREEMENT, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY. THIS LIMITATION WILL APPLY EVEN IF THE PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

**15. Term and Termination.**

**15.1 General**. This Agreement may not be terminated by either party except in accordance with this Article 15. To be clear, there shall be no, and ZKC shall have no obligation to pay any, termination fee to Theraclone if ZKC or Theraclone terminates this Agreement under this Article 15.

**15.2 Term**. Unless otherwise terminated in accordance with this Article 15, this Agreement shall expire upon the expiration of the Royalty Term. Without limiting Section 15.10, if ZKC requests, after expiration of this Agreement under this Section 15.2, that any agreement should be entered into between the parties hereto in connection with the subject hereof, Theraclone shall enter into good faith negotiations with ZKC for such purpose.

**15.3 Termination by ZKC for Convenience**. If ZKC determines in good faith for bona fide scientific or clinical reasons not to proceed with development of the Licensed Products, for any reason or no reason, ZKC may terminate this Agreement at its option, without any charge to, or obligation of indemnification by, ZKC in connection with any Damages arising on or after the date of such termination, by providing thirty (30) days prior written notice at any time to Theraclone. To be clear, such termination may be for any reason or no reason and shall not be subject to the resolution procedure set forth in the remainder of this paragraph. In addition, if ZKC desires to terminate this Agreement for convenience for commercial reasons then ZKC shall notify Theraclone of such desire and Theraclone shall agree or disagree within thirty (30) days of receipt of such notice (the "**Response Deadline**"). If Theraclone disagrees, then the parties shall engage an independent person with at least fifteen (15) years in senior management positions in the biopharmaceutical industry, including positions with responsibility for finance and sales and/or marketing. Such person (the "**Commercial Expert**") shall not be affiliated with or be an advisor to either of the parties. If the parties cannot agree as to who the Commercial Expert shall be within twenty (20) days after the expiration of the Response Deadline, then the mechanism for selecting such person shall be the same as that used with the Patent Expert in Section 4.1(c). The parties shall accept the Commercial Expert's determination (which determination shall be binding on the parties) as to whether ZKC may terminate this Agreement for convenience due to commercial reasons and the Commercial Expert's determination shall be based on (i) the likelihood of a Licensed Product receiving Regulatory Approval in the Territory in a commercially reasonable timeframe, and the (ii) market opportunity as compared to ZKC's other products. Except as set forth in this Section 15.3, the procedures that shall be used with the Commercial Expert shall be the same as those used with the Patent Expert in Section 4.1(c).

**15.4 Termination for Uncured Material Breach**. If either party is in material breach of any material provision of this Agreement and if such breach is not cured within ninety (90) days (or in the case of non-payment of undisputed amounts, thirty (30) days) after receiving written notice from the other party with respect to such breach detailing the alleged breach and stating explicitly that the writing is a notice under this Section 15.4, the non-breaching party shall have the right to terminate this Agreement by giving written notice to the party in breach. The parties agree and acknowledge that any material breach by ZKC or Theraclone of their respective diligence obligations in Section 7 shall be deemed to be a material breach of a material provision of this Agreement. Termination under this Section 15.4, if disputed by the non-terminating party, shall not be effective until the dispute or contest is resolved under Article 12, and then only if the arbitrator finds that the termination is proper.

**15.5 Termination for Insolvency; Rights under Bankruptcy Code**. Either party may terminate this Agreement by written notice to the other party if, at any time, the other party files in any court or agency pursuant to any statute or regulation of the United States or of any individual state or foreign country, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver of trustee of the party or of its assets or for any other similar proceedings, or if the other party is served with an involuntary petition against it, filed in any of such insolvency proceedings, and such petition is not be dismissed with sixty (60) days after the filing thereof, or if the other party proposes or is a party to any dissolution or liquidation, or if the other party makes an assignment for the benefit of creditors, or if the other party's license, registration, approval or the like granted by any official or governmental agency is rescinded, canceled or suspended. All rights and licenses granted under or pursuant to this Agreement by Theraclone and ZKC are, and shall be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The parties agree that the parties as licensees of such rights under this Agreement, shall retain and may fully exercise all of their rights and elections under the U.S. Bankruptcy Code. The parties further agree that, in the event of the commencement of a bankruptcy proceeding by or against Theraclone under the U.S. Bankruptcy Code, then ZKC shall be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, and the same, if not already in ZKC's possession, shall be promptly delivered to ZKC upon any such commencement of a bankruptcy proceeding upon its written request therefor. The foregoing sentence shall apply *mutatis mutandis* to allow Theraclone to receive duplicates, access and the like in the same manner, if Zenyaku undergoes a bankruptcy event as outlined in the foregoing sentence.

**15.6 Termination by Theraclone due to ZKC Material Breach of Supply Agreement**. If Theraclone terminates the Supply Agreement for the uncured material breach of that agreement by Zenyaku, then Theraclone has the right to terminate this Agreement by written notice to Zenyaku and the effect of such termination of this Agreement shall be the same as provided for in Section 15.8.

**15.7 Effect of Termination or Expiration on Certain Joint Inventions**. Upon expiration or termination of this Agreement for any reason, each party shall retain its respective rights in all Joint Inventions not covered by the Joint Patents in existence as of the expiration or termination effective date without obligation to the other party, provided that the parties agree to cooperate with each other with respect to any patenting activities related to such Joint Inventions. In the event either party wants to obtain a license to the other party's interest in such Joint Inventions, the parties agree to negotiate the terms of such license in good faith at such time.

**15.8 Effect of Termination By ZKC for Convenience; Effect of Termination by Theraclone for ZKC's Uncured Material Breach or Insolvency**. If (a) ZKC terminates this Agreement pursuant to Section 15.3 (for convenience), or (b) Theraclone terminates this Agreement pursuant to Section 15.4 (for ZKC's uncured material breach) or pursuant to Section 15.5 (for ZKC's insolvency) then: (i) subject to the maintenance of rights held by Sublicensees as of the effective date of a termination pursuant to this Section 15.8, all rights and licenses granted to ZKC pursuant to this Agreement with respect to the Licensed Products and Licensed Antibodies, including, without limitation, rights and licenses granted to ZKC under the Theraclone Patents, Theraclone Know-How and Theraclone's interest in the Joint Patents, shall revert to Theraclone and ZKC shall retain no license rights therein, (ii) the license granted to Theraclone pursuant to Section 4.1(b) shall become exclusive, fully-paid up, royalty free, and worldwide with respect to all Licensed Antibodies and all Licensed Products in each case originating with and proprietary to Theraclone, to the extent that ZKC has the right to grant licenses under the intellectual property of such Section on the terms and conditions of this Agreement, (iii) ZKC shall use good faith efforts and cooperate with Theraclone to transfer to Theraclone ZKC's Licensed Product Regulatory Approvals and/or Clinical Regulatory Filings, as the case may be, for Licensed Antibodies and all Licensed Products in each case originating with and proprietary to Theraclone, (iv) ZKC shall pay all sums accrued hereunder which are due as of the effective date of termination, (v) the Supply Agreement shall automatically terminate with no further action required by the parties, (vi) for purpose of clarity, any obligations Theraclone had to pay a portion of its Licensing Proceeds to ZKC shall immediately cease as of such termination date, and (vii) all Sublicensees that elect in writing within thirty (30) days to retain rights shall automatically become directly licensed by Theraclone within the same scope of sublicense that they had from Zenyaku and shall owe royalties and Sublicensing Proceeds to Theraclone at the same rates as set forth in Article 5.

In addition, ZKC hereby agrees that in the event of any such termination, unless Theraclone shall otherwise be in material breach of the licenses granted pursuant to this Section or ZKC shall obtain any right to the Licensed Products, ZKC shall promptly disclose in physical or other tangible form to Theraclone all data, regulatory filings, and product licenses with respect to all Licensed Antibodies and all Licensed Products in each case originating with and proprietary to Theraclone, each to the extent necessary to allow Theraclone to exercise the licenses granted pursuant to this Section. Following any such termination described in this Section, Theraclone shall be responsible for any and all costs and liabilities in connection with its or its sublicensee's holding and/or exercise of the licenses granted pursuant to this Section.

Furthermore, in the event of any such termination of this Agreement, ZKC shall notify Theraclone of the amount of Licensed Product ZKC and its Affiliates, Sublicensees and distributors have on hand as of the effective date of such termination, the sale of which would be subject to royalty payments under this Agreement. ZKC and its Affiliates, Sublicensees and distributors shall have the right to sell that amount of Licensed Product, provided that ZKC shall pay to Theraclone the royalty amounts payable thereon at the time of the effective date of such termination, which amounts shall be due within forty-five (45) days after such sale:

**15.9 Effect of Termination by ZKC for Theraclone's Uncured Material Breach or Insolvency**. If ZKC terminates this Agreement pursuant to Section 15.4 (for Theraclone's uncured material breach) or pursuant to Section 15.5 (for Theraclone's insolvency) then: (i) all rights and licenses granted to ZKC pursuant to Section 4.1(a) of this Agreement under the Theraclone Patents, Theraclone Know-How and Theraclone's interest in the Joint Patents shall remain in full force and'effect and ZKC shall continue to have the obligation to pay royalties in accordance with Section 5.7 with respect to Licensed Products thereafter commercialized; provided, however, that the applicable royalty rate(s) set forth in Section 5.7 shall thereafter be reduced by one-third (1/3), (ii) subject to the maintenance of rights held by Other Licensees as of the effective date of a termination pursuant to this Section, all rights and licenses granted to Theraclone pursuant to Section 4.1(b) shall revert to ZKC and Theraclone shall retain no license rights therein, (iii) ZKC shall be released from any and all obligations hereunder (including the diligence obligations in Section 7) arising after the effective date of such termination, (iv) Theraclone's supply obligations under this Agreement (including those in Section 8) and the Supply Agreement shall continue in full force and effect but ZKC's covenant not to practice its manufacture and have manufactured rights under the Supply Agreement shall immediately expire, (v) ZKC shall have the right to elect in its sole discretion to terminate the Supply Agreement, or reduce the amount of its requirements that it satisfies under the Supply Agreement, upon written notice to Theraclone or to continue the Supply Agreement (in any event for at least two (2) years after the effective date of termination of this Agreement, if elected by ZKC), and (vi) ZKC agrees that any sublicenses at that time in effect between Theraclone and Other Licensees under the license to Theraclone in Section 4.1(b), shall become direct licenses between Zenyaku and the Other Licensees for the practice, use, licensing, manufacturing, marketing, sale, or distribution by such Other Licensees of the Licensed Antibodies and Licensed Products that originated with and were proprietary to Zenyaku, to avoid doubt, solely in the Retained Territory and solely to the extent within or more narrow than the scope of the license to Theraclone in Section 4.1(b). In the case of (vi), this only applies with respect to those Other Licensees who were not in breach of any provision of the agreement by which they obtained rights from Theraclone, and to avoid doubt, the flow-through of rights from such Other Licensees to Zenyaku in accordance with Section 4.6 shall remain in full force and effect as a condition of obtaining such direct license from Zenyaku.

**15.10 Effect of Expiration**. Upon expiration of the Royalty Term of this Agreement, the license granted to ZKC in Section 4.1(a) shall thereafter become irrevocable and royalty-free except for the following royalty payments: (i) if there is a cell line within the Theraclone Know-How that is the production cell line for the Licensed Product, then ZKC shall pay the royalties due under Section 5.7 at the rate of [***] and (ii) if ZKC uses Theraclone's product trademarks in connection with the Licensed Product, then the trademark license granted to ZKC by Theraclone in Section 4.1(a) shall survive for this purpose and ZKC shall pay additional royalties on Net Sales of Licensed Product at the rate of [***]. In addition, ZKC shall be fully released from its covenant and commitment not to practice its manufacture and have manufactured rights under the Supply Agreement. To be clear, the right of Theraclone to be identified on the label of Licensed Products shall not survive expiration unless required by law.

**15.11 Survival**. Expiration or early termination of this Agreement shall not relieve either party of its obligations incurred prior to such expiration or early termination. In addition, Sections 5.9, 5.12 and 5.13 (with respect to payments due for sales during the term of this Agreement); 6.3 (with respect to audit rights); 6.4; 10.1(b); 11.3; 11.4; 11.5; 11.6; 11.7; 15.7; 15.8; 15.9; 15.10; and 15.11; and Articles 9, 12, 13, 14, 16 and 17 shall survive any expiration or early termination of this Agreement.

**16. Indemnification.**

**16.1 By ZKC**. Subject to Section 16.3 hereof, from and after the Effective Date, except as otherwise herein specifically provided, ZKC shall defend, indemnify and hold harmless Theraclone and its Affiliates and their successors and assigns, Other Licensees, and the respective officers, directors, shareholders, partners, and employees of each of the foregoing entities (each a "**Theraclone Indemnified Party**") from and against all losses, damage, liability, and expense including legal fees ("**Damages**") incurred thereby or caused thereto arising out of or relating to any demand, claim, action or proceeding brought or initiated by a Third Party (each a "**Third Party Claim**") against any Theraclone Indemnified Party to the extent that such Third Party Claim arises out of (i) any breach or violation of, or failure to properly perform, any covenant or agreement made by ZKC in this Agreement or the Supply Agreement, unless waived in writing by the Theraclone Indemnified Party; (ii) any breach or alleged breach of any of the representations or warranties made by ZKC in this Agreement or the Supply Agreement; (iii) the gross negligence or willful misconduct of ZKC; (iv) the First-3-Years Additional Technology costs to the extent that Zenyaku is responsible for them under Section 4.1(c) and Section 4.1(f); or (v) any claim arising from the manufacture (to be clear, other than by Theraclone under the Supply Agreement), storage, handling, use, sale, offer for sale, import, export or distribution of Supply Products by ZKC, in each case except to the extent arising from the failure of the delivered quantities of Supply Product to conform to the Specifications upon delivery pursuant to Section 2.4 of the Supply Agreement, such exception including, to be clear, Latent Defects present in the delivered quantities of Supply Product upon delivery pursuant to Section 2.4 of the Supply Agreement (and, to avoid any doubt, this item (v) excludes Damages and Third Party Claims arising out of or relating to item (v) in Section 16.2); *provided*, *however*, that such indemnity as provided for in items (i) - (v) shall not apply to the extent Theraclone has an indemnification obligation pursuant to Section 16.2 for such Damages. "Supply Products," "Specifications" and "Latent Defects" shall have the meanings given to them in the Supply Agreement.

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**16.2 By Theraclone**. Subject to Section 16.3 hereof, from and after the Effective Date, except as otherwise herein specifically provided, Theraclone shall defend, indemnify and hold harmless ZKC, its Affiliates and their successors and assigns, Sublicensees, and the respective officers, directors, shareholders, partners, and employees of each of the foregoing entities (each a "**ZKC Indemnified Party**") from and against all Damages incurred thereby or caused thereto arising out of or relating to any Third Party Claim against any ZKC Indemnified Party to the extent that such Third Party Claim arises out of (i) any breach or violation of, or failure to properly perform, any covenant or agreement made by Theraclone in this Agreement or the Supply Agreement (including, to be clear, with respect to any Latent Defects (as defined in the Supply Agreement) present in the delivered quantities of Supply Product (as defined in the Supply Agreement) upon delivery pursuant to Section 2.4 of the Supply Agreement), unless waived in writing by the ZKC Indemnified Party; (ii) any breach or alleged breach of any of the representations or warranties made by Theraclone in this Agreement or the Supply Agreement (including, to be clear, with respect to any Latent Defects (as defined in the Supply Agreement) present in the delivered quantities of Supply Product (as defined in the Supply Agreement) upon delivery pursuant to Section 2.4 of the Supply Agreement); (iii) the research and development activities performed by Theraclone under this Agreement, (iv) the gross negligence or willful misconduct of Theraclone, or (v) all costs of Additional Technology and/or infringement thereof, other than those First-3-Years Additional Technology costs to the extent that Zenyaku is responsible for them under Section 4.1(c) and Section 4.1(f); *provided*, *however*, that such indemnity as provided for in items (i) - (v) shall not apply to the extent ZKC has an indemnification obligation pursuant to Section 16.1 for such Damages.

**16.3** **Mechanics**. If any Theraclone Indemnified Party or ZKC Indemnified Party (in each case an "**Indemnified Party**"), receives any written claim which it believes is the subject of indemnity hereunder by either Theraclone or ZKC, as the case may be (in each case an "**Indemnifying Party**"), the Indemnified Party shall, as soon as reasonably practicable after forming such belief, give notice thereof to the Indemnifying Party, including full particulars of such claim to the extent known to the Indemnified Party; *provided*, *however*, that the failure to give timely notice to the Indemnifying Party as contemplated hereby shall release the Indemnifying Party from any liabilities caused by such failure but shall not release the Indemnifying Party from any liability to the Indemnified Party other than any liabilities caused by such failure. The Indemnifying Party shall have the right, by prompt notice to the Indemnified Party, to assume the defense of such claim with counsel reasonably satisfactory to the Indemnified Party, and at the cost of the Indemnifying Party. If the Indemnifying Party does not so assume the defense of such claim, the Indemnified Party may assume such defense with counsel of its choice at the sole expense of the Indemnifying Party. If the Indemnifying Party so assumes such defense, the Indemnified Party may participate therein through counsel of its choice, but the cost of such counsel shall be borne solely by the Indemnified Party. The party not assuming the defense of any such claim shall render all reasonable assistance to the party assuming such defense, and all out-of-pocket costs of such assistance shall be borne solely by the Indemnifying Party. No such claim shall be settled other than by the party defending the same, and then only with the consent of the other party, which shall not be unreasonably withheld or delayed; *provided*, *however*, that the Indemnified Party shall have no obligation to consent to any settlement of any such claim which imposes on the Indemnified Party any liability or obligation which cannot be assumed and performed in full by the Indemnifying Party.

**17. Miscellaneous.**

**17.1** **Force Majeure**. If the performance of any part of this Agreement by either party, or of any obligation under this Agreement, is prevented, restricted, interfered with or delayed by reason of any cause beyond the reasonable control of the party liable to perform, the party so affected shall, upon giving written notice to the other party, be excused from such performance to the extent of such prevention, restriction, interference or delay, provided that the affected party shall use its Commercially Reasonable Efforts to avoid or remove such causes of nonperformance and shall continue performance with the utmost dispatch whenever such causes are removed. When such circumstances arise, the parties shall discuss what, if any, modification of the terms of this Agreement may be required in order to arrive at an equitable solution. Notwithstanding anything to the contrary, this Section shall not be interpreted to diminish Zenyaku's rights in Section 5.2 of the Supply Agreement or to excuse Theraclone from the consequences under such section.

**17.2** **Severability**.

**(a)** In the event any portion of this Agreement shall be held illegal, void or ineffective, the remaining portions hereof shall remain in full force and effect.

**(b)** If any of the terms or provisions of this Agreement are in conflict with any applicable statute or rule of law, then such terms or provisions shall be deemed inoperative to the extent that they may conflict therewith and shall be deemed to be modified to conform with such statute or rule of law.

**17.3** **Entire Agreement**. This Agreement and all Exhibits hereto, entered into as of the date first written above, together with the Supply Agreement, constitutes the entire agreement between the parties relating to the subject matter hereof and supersedes all previous writings and understandings (and any and all information exchanged by the parties under their Confidential Information and Non Disclosure Agreement dated as of June 23, 2006 shall be deemed Confidential Information exchanged under this Agreement and subject to the obligations with respect thereto contained in this Agreement). No terms or provisions of this Agreement shall be varied or modified by any prior or subsequent statement, conduct or act of either of the parties, except that the parties may mutually amend this Agreement by written instruments specifically referring to and executed in the same manner as this Agreement.

**17.4** **Notices**. Any notice required or permitted under this Agreement shall be deemed given if delivered in writing (i) personally, (ii) by facsimile transmission (receipt verified), (iii) by registered or certified mail (return receipt requested), postage prepaid, (iv) by electronic mail (receipt verified), or (v) sent by express courier service (receipt verified), to the following addresses of the parties or such other addresses as the parties may provide notice of pursuant to this Section. Any notice required or permitted to be given pursuant to this Agreement shall be effective upon receipt by Theraclone or ZKC, as the case may be.

**IF TO THERACLONE:**
Theraclone Sciences, Inc.
1124 Columbia Street, Suite 300
Seattle, WA 98104
USA
Attention: Chief Executive Officer with a copy to Chief Financial Officer
Telephone: +1 (206) 805-1600
Facsimile: +1 (206) 805-1699

**WITH A REQUIRED COPY (which shall not constitute notice) to:**
Beacon Law Advisors, PLLC
801 2nd Ave., Suite 614
Seattle, WA 98104
Attention: Noel C. Howe
Telephone: +1 (206) 264-3071
Facsimile: +1 (206) 749-9261

**IF TO ZKC:**
Zenyaku Kogyo Co., Ltd
5-6-15, Otsuka, Bunkyo,
Tokyo 112-8650
Attention: Director, Product Development
Telephone: +(03) 3946-1113
Facsimile: +(03) 3946-1202

**WITH A REQUIRED COPY (which shall not constitute notice) to:**
Morrison & Foerster LLP
425 Market Street
San Francisco, CA 94105

**17.5 Independent Contractors**. Theraclone and ZKC shall be independent contractors and shall not be deemed to be partners, joint venturers or each other's agents or involved in any fiduciary relationship. Nothing in this Agreement shall be construed to be inconsistent with the parties' relationship or status as independent contractors.

**17.6 Unenforceable Provisions**. If any provision of this Agreement is finally held to be invalid, illegal or unenforceable by a court of competent jurisdiction, the validity, legality and enforceability of the remaining provisions shall not be affected or impaired in any way.

**17.7 Waiver**. Any delay in enforcing a party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of a party's right to the future enforcement of its rights under this Agreement, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time executed by an authorized officer of the waiving party.

**17.8 Construction**. This Agreement has been prepared jointly and shall not be strictly construed against either party. Ambiguities, if any, in this Agreement shall not be construed against any party, irrespective of which party may be deemed to have authored the ambiguous provision.

**17.9 Headings**. The headings for each article and section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on, nor to be used to interpret, the meaning of the language contained in the particular article or section.

**17.10 Counterparts**. This Agreement may be signed in counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument. In addition, signatures may be exchanged by facsimile or PDF.

[Signature page follows]

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed by its duly authorized officer as of the date first written above.

THERACLONE SCIENCES, INC.

By: /s/ David Fanning
David Fanning
President and Chief Executive Officer

ZENYAKU KOGYO CO., LTD.

By: /s/ Kazuhiro Hashimoto
Kazuhiro Hashimoto
President and Representative Director

**EXHIBIT A**

**LICENSED ANTIBODIES**

The antibodies with the following reference numbers: [***]. The compositions of such antibodies can be found in the patents listed on Exhibit C hereto.

***Confidential Treatment Requested.**

**EXHIBIT B**

**[Intentionally left blank.]**

**EXHIBIT C**

**PATENT EXHIBIT**
**THERACLONE PATENT APPLICATIONS**

[***]

***Confidential Treatment Requested.**

**EXHIBIT D-1**

**ANTI-INFLUENZA M2E MAB DEVELOPMENT PLAN OUTLINE**
**PROJECT ROLES AND RESPONSIBILITIES**

[***]

**Development Plan Outline**

The activities below are to be performed by Theraclone.

[***]

***Confidential Treatment Requested.**

**EXHIBIT E-1**

**RESEARCH PLAN OUTLINE TO IDENTIFY A STRUCTURED MIMETIC OF THE M2E NATIVE CONFORMATION THAT MAY BE USED AS A VACCINE ANTIGEN**

[***]

***Confidential Treatment Requested.**

**EXHIBIT E-2**

**RESEARCH PLAN OUTLINE TO IDENTIFY A STRUCTURED MIMETIC OF THE HA NATIVE CONFORMATION THAT MAY BE USED AS A VACCINE ANTIGEN**

[***]

***Confidential Treatment Requested.**

**EXHIBIT F**

**FORM OF SUPPLY AGREEMENT**

**SUPPLY AGREEMENT**

This Supply Agreement (this "Supply Agreement") is made as of _____ (the "Effective Date") by and between Theraclone Sciences, Inc., a corporation organized and existing under the laws of the State of Delaware, USA and having its principal office at 1124 Columbia Street, Suite 300, Seattle, Washington, 98104, USA ("Theraclone") and Zenyaku Kogyo Co., Ltd., a corporation organized and existing under the laws of Japan and having its principal office at 6-15 Otsuka, 5-Chome, Bunkyo-Ku, Tokyo 112-8650, Japan ("ZKC" or "Zenyaku").

**RECITALS**

A. ZKC and Theraclone have entered into a Development and License Agreement dated as of the date hereof (the "License Agreement"), pursuant to which Theraclone licensed to ZKC certain intellectual property rights related to the development of prophylactic and therapeutic products for the prevention and treatment of disease, including influenza infection in humans.

B. In connection with, and in accordance with the terms and conditions of, Section 8.1 of the License Agreement, Theraclone is willing to supply to ZKC, and ZKC agrees to purchase from Theraclone upon the terms and subject to the conditions set forth in this Supply Agreement, certain preclinical and clinical grade human monoclonal antibodies as set forth in this Supply Agreement.

NOW THEREFORE, in consideration of the premises and the mutual covenants herein set forth, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**1. DEFINITIONS.**

Capitalized terms used herein shall have the respective meanings set forth in the License Agreement unless otherwise defined herein. All references to particular Exhibits, Articles and Sections shall mean the Exhibits to, and Articles and Sections of, this Supply Agreement, unless otherwise specified. References to this "Supply Agreement" include the Exhibits. For the purposes of this Supply Agreement, the following words and phrases shall have the following meanings and derivative forms (e.g., the singular shall be interpreted to be one of the items defined in the plural and *vice versa*; provided, however, if a word or phrase does not have its first letter(s) capitalized then it shall not have the following meaning) of them shall be interpreted accordingly:

"cGMP" means current good manufacturing practices as defined in (a) the FDA rules and regulations, 21 CFR Part 211 for finished pharmaceuticals, (b) the counterparts to these regulations in the Territory, and/or (c) International Conference on Harmonization guidelines relating to the same subject matter, whatever is the most stringent.

"FDA" shall mean the U.S. Food and Drug Administration or any successor agency thereof.

"Fully Burdened Manufacturing Cost" or "FBMC" means the actual fully burdened costs and expenses of manufacturing for the Supply Product in the Territory, which costs and expenses include, without limitation, the costs of all raw materials and labor (including all allocable benefits) used or consumed in such manufacture, the costs of storage, Third Party contract manufacturing costs (but excluding any costs with respect to manufacturing development by a Third Party and/or facility expansion and/or build-out; all of the foregoing are handled as provided in Section 2.2(a)), packaging costs and expenses, all quality assurance and quality control related expenses, all other regulatory costs and expenses, and all overhead amounts specifically allocable to such manufacturing (but explicitly excluding executive management and related overhead relating to executive management with broader responsibility than solely manufacturing; capital equipment costs and start-up costs, whether or not amortized; and costs of excess capacity), and all royalty amounts payable by Theraclone to any Third Party due to the manufacture of Supply Product, all of the foregoing as calculated in accordance with US generally accepted accounting principles consistently applied.

"Specifications" means written specifications related to the manufacture (including, to avoid doubt, manufacturing methods and processes and assay procedures) of the Supply Product that will be developed (and may be amended) pursuant to Section 3.1 and shall be attached hereto and made a part hereof as Exhibit B. Whether or not separately referenced in Exhibit B, compliance with cGMP shall be deemed to be required by the Specifications and by this Supply Agreement.

"Supply Failure" has the meaning given in Section 5.2.

"Supply Product" shall mean the monoclonal antibody or monoclonal antibodies, or products containing the foregoing, set forth on Exhibit A attached hereto, as amended from time-to-time by mutual written agreement by the parties; provided that, with respect to any composition that is a Licensed Antibody that Zenyaku requires after JSC review under the License Agreement, if Theraclone does not agree to manufacture such composition as a Supply Product under this Supply Agreement, Zenyaku shall have the right to manufacture or have manufactured such composition for the Territory (and ZKC shall be released with respect to such composition from its covenant not to practice its manufacture and have manufactured rights set forth below in Section 5.4).

The words "include," "includes," "including" and other conjugations of "to include" shall be deemed followed by "without limitation" regardless of whether written there (and drawing no implications from inconsistent usage).

## 2. PRODUCT SUPPLY.

**2.1** Purchase and Sale. Upon the terms and subject to the conditions of this Supply Agreement, Theraclone shall sell and supply to ZKC all of its requirements of the Supply Product, in accordance with this Supply Agreement. ZKC agrees, for itself, its Affiliates and Sublicensees, to satisfy solely through ZKC's purchase of the Supply Product under this Supply Agreement [***] of ZKC's, its Affiliates' and Sublicensees' reasonable requirements of the Supply Product ("Requirements"), except as provided for otherwise in this Supply Agreement (for example, in Article 5). The parties agree that Theraclone shall have the right in connection with the supply of Supply Product hereunder to contract with respect to manufacture of the Supply Product with such Third Parties that (i) are fully accredited by the Regulatory Authority in the Territory, (ii) as Theraclone deems advisable, and (iii) are an entity for whom ZKC has given its prior written approval (including with respect to the terms of Theraclone's agreement with such Third Party manufacturer), which approval shall not be unreasonably withheld, delayed, or conditioned; provided, however, that Theraclone shall remain fully responsible for all of its obligations hereunder. ZKC may specify that certain of the orders that it places under this Supply Agreement shall be delivered by the carrier directly to ZKC's Affiliates and ZKC's and its Affiliates' Sublicensees and Distributors, in which case Theraclone shall fully permit and facilitate this.

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**2.2** Purchase Price, Price Adjustments and Payment.

(a) For Supply Product supplied by Theraclone to ZKC pursuant to this Supply Agreement, ZKC shall pay a purchase price equal to the Fully Burdened Manufacturing Cost of the Supply Product plus [***] mark up over FBMC for bulk or vialed unlabeled Supply Product (the "Purchase Price"). Additional costs of (a) manufacturing development to develop processes that are unique to the Territory and are not being used to manufacture for the Retained Territory shall be included in the calculation of FBMC of the Supply Products for supply to ZKC for the Territory, (b) manufacturing development occurring after the Phase I Trials of Supply Product to develop manufacturing processes used to produce worldwide supply shall be allocated to the products for worldwide supply, (c) any costs to develop manufacturing processes to meet the specific requirements of any subset of the Retained Territory that will not be used to produce worldwide supply shall be absorbed by the product for such Retained Territory and not included in FBMC under this Supply Agreement; provided however that the foregoing costs included in (a) and (b) shall not be charged immediately and instead shall be absorbed or amortized into the commercial supply price of Supply Product over a period of years mutually agreed after commercial launch; and *provided, further*, that, notwithstanding the first sentence of this Section 2.2(a), the [***] markup over FBMC to arrive at the Purchase Price shall be calculated excluding the particular cost elements (a) and (b) described in this sentence, and there shall be no markup over these cost elements (a) and (b). Costs of facility build-out and/or expansion of Theraclone's or a Third-Party contract manufacturer's facility shall be allocated to worldwide supply of products over a period of years as described in the foregoing sentence, but, notwithstanding the first sentence of this Section 2.2(a), the [***] markup over FBMC to arrive at the Purchase Price shall be calculated excluding the particular cost element described in this sentence, and there shall be no markup over this cost element. FBMC and all of the foregoing elements of FBMC shall be calculated in accordance with US generally accepted accounting principles consistently applied. Theraclone shall provide ZKC with details of such Fully Burdened Manufacturing Cost upon request by ZKC. In establishing scale up commercial manufacturing process for bulk Supply Product, Theraclone shall use Commercially Reasonable Efforts to achieve a commercially reasonable manufacturing cost for Supply Product. If any non-conforming lot occurs, then the JSC or the JCC will discuss if the non-conformity is due to Theraclone's willful misconduct or negligence or not. If the JSC or JCC (as applicable) agrees that it is not due to Theraclone's willful misconduct or negligence, then the JSC or JCC (as applicable) shall also discuss reasonable measures to amortize or allocate the cost of such non-conforming lot to the products for worldwide supply. (To avoid doubt, if due to willful misconduct or negligence, the costs of the non-conforming lot shall not be included in whole or in part in FBMC.) If the JSC or JCC (as applicable) review reveals reasonable measures that should be taken to avoid future failures and losses, then Theraclone shall implement such measures. If the JSC or JCC (as applicable) cannot agree on the determination of Theraclone's willful misconduct or negligence, then the Chief Executive Officer (or his designee) of each of the parties shall enter into good faith discussion regarding the matter

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Furthermore, if ZKC believes that there has been a change that will have a material impact on the pricing of the Supply Products (for example, a material change in the pricing policy established by the applicable Regulatory Authority in the Territory; a sharp exchange fluctuation for the Territory; a material economic downturn within the Territory), then the parties agree to meet and engage in good faith discussions and negotiate an agreement in good faith regarding a reasonable reduction to the [***] mark-up to Fully Burdened Manufacturing Cost above for Supply Products supplied by Theraclone under this Section. If the parties are unable to conclude such agreement within sixty (60) days after the date ZKC first notifies Theraclone regarding the change, either party shall be entitled to submit the matter to the dispute resolution process in Article 11 for final determination and implementation of such discount in a reasonable amount. The standard to be applied is that the reduction shall equal the percentage of ZKC's lost profitability on the Supply Products due to such material change (e.g., if a material change in the pricing policy of the Japanese government reduces ZKC's profit on the Supply Product by [***], then the mark-up to Fully Burdened Manufacturing Cost shall be reduced by [***] – that is, the mark-up to Fully Burdened Manufacturing Cost will be [***]). When making the determination in the immediately preceding sentence, the arbitrator(s) will review up to five (5) years of historical data regarding ZKC's profitability with respect to the Supply Product, or if five (5) years of historical data is not available, then the arbitrator(s) will use whatever historical data is available and reasonable market projections for the Supply Product in the Territory such that the available historical data and the market projections cover a five (5) year span (e.g., if three (3) years of historical data is available, then the arbitrator(s) will combine that with market projections for the next two (2) years). The arbitrator(s) under Article 11 (if arbitration becomes necessary) is hereby empowered to select the reduction based on such criterion. This Section is not an "agreement to agree" for legal purposes and is intended to be fully enforceable with the arbitrator(s) fully empowered to make the selection as to the appropriate reduction.

Theraclone agrees to allow an independent auditing firm selected and paid for by ZKC (except as set forth otherwise in 2.2(b)) to audit Theraclone's accounting records pertaining to the manufacture of the Supply Product once per year. ZKC agrees that all information relating to accounting records pertaining to the manufacture of Supply Product shall be treated as Confidential Information under Article 10 hereof. Such examination shall occur only on reasonable prior notice during regular business hours during the term of this Supply Agreement and for three (3) years thereafter, provided, however, that such examination shall not (i) be of such records for more than the prior three (3) years, or (ii) cover any such records which date prior to the date of the last examination, and provided further that such accountants shall only report to ZKC as to the accuracy of the price charged by Theraclone to ZKC for ZKC purchase of Supply Product.

(b) In the event that the audit conducted under Section 2.2(a) shows that ZKC has overpaid Theraclone (which may include a finding that Theraclone's Fully Burdened Manufacturing Cost has been miscalculated), and Theraclone does not dispute the results of such audit with reasonable written evidences, then Theraclone shall pay back the amount of such overpayment immediately upon request of ZKC. In the case that such overpayment is more than [***] of the amounts otherwise due for the audited period, Theraclone shall reimburse ZKC for the expense of the audit.

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(c) Theraclone shall invoice ZKC at the time of or after each shipment of the Supply Product and shall receive from ZKC payment of such invoice within forty-five (45) days of ZKC's receipt of the invoice.

**2.3** Forecast and Orders.

(a) Within sixty (60) days after the Effective Date (or such other date as may be agreed upon by the parties), ZKC shall furnish to Theraclone a forecast (the "Initial Forecast") of ZKC's requirements for the Supply Product for each of the calendar quarters within the period starting with the first full calendar quarter that starts six (6) months after such Initial Forecast is due and ending with the calendar quarter that ends on September 30. Such Initial Forecast will contain information sufficient for Theraclone to determine ZKC's requirements for Supply Product for the period covered by the Initial Forecast. By no later than March 31 of each year (the "Forecast Date") following the due date of the Initial Forecast, ZKC shall provide Theraclone with a forecast (a "Firm Forecast") of ZKC's requirements for the Supply Product for each calendar quarter during the twelve-month period commencing on October 1 of the same calendar year as the Forecast Date and ending twelve (12) months later (i.e., on September 30 of the next calendar year). To be clear, on each anniversary of the Forecast Date during the term of this Supply Agreement, ZKC shall deliver to Theraclone additional Firm Forecasts covering the twelve month period commencing where the prior Firm Forecast ended (i.e., commencing on October 1 of the applicable year). The Initial Forecast shall be included within the meaning of "Firm Forecast."

(b) The amount of Supply Product forecast in each Firm Forecast shall automatically be ZKC's firm and binding purchase order therefor and ZKC shall be obligated to purchase the amount provided therein. To be clear, except as set forth otherwise in this Supply Agreement or as otherwise agreed to by the parties, ZKC shall be obligated to purchase not less than [***] of the amount of Supply Product forecasted in each Firm Forecast. If, at any time, ZKC reasonably believes that the amount of Supply Product it will require pursuant to a future Forecast will increase to more than [***] or decrease to less than [***] of the quantities provided in the prior Firm Forecast, ZKC shall inform Theraclone in writing promptly and provide Theraclone with an estimate of such anticipated future requirements. Such estimate of anticipated future requirements shall be non-binding and is intended to aid Theraclone in planning; provided, however, that in the event ZKC issues a purchase order for an amount in excess of the amount provided in the Firm Forecast, Theraclone shall be obligated to deliver the amounts specified in such purchase order if such quantity falls within Theraclone's production capacities after taking into account Theraclone's and its other licensees' requirements. Notwithstanding anything implied above that could be read to limit ZKC's order for its trial or sales requirements, ZKC may include in the Firm Forecasts (and Theraclone shall provide) amounts of Supply Product that will go into or are for ZKC's safety stock.

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Notwithstanding the foregoing, ZKC shall be entitled to request to increase the amount of ordered Supply Product upon written notice to Theraclone at least six (6) months in advance of the applicable delivery date. Theraclone will use Commercially Reasonable Efforts to accept and fulfill ZKC's request to change the amount of ordered Supply Product, but, with respect to any such requests to increase the amount of Supply Product, it shall not in and of itself be considered a Supply Failure if Theraclone does not accept such request, and, if Theraclone accepts such request, the increased amount over the quantity of the initially ordered amounts shall not be taken into account for purposes of the "Supply Failure" definition.

In the event Theraclone is not able to meet its and all of its licensees' (meaning ZKC's and those of any other licensee(s) for the Retained Territory) requirements for Supply Products, then the Supply Product shall be reasonably allocated by Theraclone among ZKC, Theraclone, and Theraclone's other licensees in proportion to their relative demands and market size as determined by each entity's average binding purchase orders for Supply Product for the prior eighteen (18) months; provided, however, in no event shall ZKC be at a supply disadvantage compared to Theraclone and its other licensees. In the event that any of the involved parties are not satisfied with Theraclone's allocation, then the CEOs of the involved parties will meet and will attempt to reach agreement on a reasonable, good faith allocation.

**2.4** Delivery. Theraclone will deliver the amounts specified in the Initial Firm Forecast and each Firm Forecast in the calendar quarter specified therein. Delivery terms shall be FCA (Incoterms 2000) (as modified by this Section) at Theraclone's facility in Seattle, Washington, USA or such other facility as may be designated by Theraclone. To be clear, title to quantities of Supply Product supplied under this Supply Agreement shall pass to ZKC and risk of loss of the quantities of Supply Product supplied under this Supply Agreement shall pass to ZKC when the goods have been delivered to the carrier at the named place (i.e., in this case, after Theraclone loads the goods onto the carrier at the facility designated by Theraclone). ZKC shall be responsible for arranging and managing clearance through customs, and Theraclone shall provide all information needed to support this. Theraclone shall use its reasonable commercial efforts to assist ZKC in arranging any desired insurance (in amounts that ZKC shall determine) and transportation, via air freight unless otherwise specified in writing, to any destinations specified in writing from time-to-time by ZKC. All customs, duties, costs, taxes, insurance premiums, and other expenses relating to such transportation and delivery, shall be at ZKC's expense. All shipment of the Supply Product shall be under appropriate storage conditions. Without limiting Section 2.11, the terms and conditions of this Supply Agreement shall control as to a particular purchase order unless otherwise agreed to in writing by the parties.

**2.5** Safety Stock. Promptly after the first BLA filing for Supply Product in the Territory), Theraclone and ZKC shall, via the Joint Steering Committee, discuss and agree upon an appropriate amount of safety stock of Supply Product for ZKC to hold (provided, however, if the Joint Steering Committee cannot agree, ZKC shall be entitled in any event to purchase the amount of safety stock that ZKC deems necessary or appropriate). Such discussions shall take into account the shelf life and stability of the Supply Product. Such safety stock shall be paid for by ZKC (under the terms set forth herein) and will be managed by ZKC. For clarity, all purchases of safety stock shall be made pursuant to the forecasting and ordering mechanism set forth in Section 2.3 above.

**2.6** Payment Instructions. All payments due hereunder shall be made in US dollars by wire transfer of immediately available funds to an account specified by Theraclone.

**2.7** Past Due Amounts. Any past due payments under this Supply Agreement shall accrue interest until paid at the greater of (i) [***] or (ii) [***]. Notwithstanding the foregoing, if such rate is greater than the maximum rate permitted by law, then such rate will be reduced to the maximum rate permitted by law.

**2.8** Foreign Currency. Currency conversions to US Dollars, if any shall be translated on a monthly basis from Japanese Yen to US Dollars by using an average rate of exchange of such month. This average shall be computed using the closing Telegraphic Transfer Selling (TTS) Rate of exchange quoted by the Tokyo-Mitsubishi Bank in Tokyo (or if it no longer exists its successor, or if no successor to it exists then a similarly reputable financial institution) as of the end of such month plus the rate as of the end of the prior month and dividing by two (2). A similar exchange mechanism shall be used for sales in other countries in the Territory.

**2.9** Import Fees and Packaging. ZKC shall be responsible for obtaining all necessary import and/or export licenses or permits and for the payment of all import and/or export fees, taxes or duties, and the like, in connection with the purchase and/or delivery of Supply Product to ZKC. Other than filling into unlabelled vials with respect to quantities that ZKC orders to be provided in that form, ZKC shall be responsible for finish packaging of Supply Product at its expense, including without limitation, all packaging and labeling for commercial sales of the Supply Product.

**2.10** Permitted Uses. ZKC shall use the Supply Product supplied by Theraclone hereunder only for the purposes of exercising ZKC's license granted under the License Agreement. ZKC shall use the Supply Product in compliance with this Supply Agreement, the License Agreement and with all applicable federal, state and local laws and regulations. Except as set forth in Section 5.4, no rights or licenses are, or are intended to be, conveyed hereunder by implication, estoppel or otherwise and no transfer of ownership of intellectual property rights is granted herein. Except as set forth in Section 5.4, all terms related to licenses and ownership of intellectual property rights are covered in the License Agreement. ZKC shall not transfer the Supply Product or any related information to any person who is not under the immediate and direct supervision of ZKC, except as may otherwise expressly be provided in this Supply Agreement or the License Agreement, and specifically excluding: Sublicensees, distributors, and others who are under contracts with ZKC which contracts are not prohibited under the License Agreement.

**2.11** No Change In Terms Through Purchase Orders. Only a formal writing signed by an officer of each party and explicitly stating that it is an amendment to this Supply Agreement, can amend this Supply Agreement. No forecast (including the Forecasts), purchase order, purchase order acceptance, document confirming or enclosed with a shipment, or other document shall alter or amend the terms of this Supply Agreement. If there is a conflict or any inconsistency between such documents and this Supply Agreement, the terms of this Supply Agreement shall control. Any such conflict or inconsistency is hereby expressly rejected.

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**3. PRODUCT MANUFACTURE.**

**3.1** Incoming Specifications. The parties will in good faith cooperate (via the Joint Steering Committee) with one another to develop the Specifications, which shall be acceptable to both parties and in any event in compliance with cGMP and any and all requirements of the Regulatory Authority in the Territory. The Specifications shall be agreed upon in writing by the parties and attached hereto and incorporated into this Supply Agreement as Exhibit B. To avoid doubt, with respect to any detailed aspects of the manufacturing process for Supply Product that are not explicitly stated in the agreed-upon Specifications, initially such detailed aspects are subject to mutual agreement by the parties (after which such detailed aspects shall be deemed included within the Specifications) and shall only be changed or amended in accordance with the process to amend the Specifications set forth in this Section. The Specifications may be amended from time-to-time by mutual written agreement of the parties and as set forth in this Section with respect to changes required to meet regulatory requirements in the Territory. Each of the parties acknowledges and agrees that it is each of their intentions for the Specifications to be the same in the Territory and in the Retained Territory, and they each agree to work together in good faith toward that intention. Notwithstanding the foregoing, the parties each agree that any change to the Specifications required to meet regulatory requirements in the Territory shall be deemed mutually agreed upon and the Specifications shall be deemed amended to incorporate such required change. ZKC shall notify Theraclone of such required changes and the regulatory requirements requiring them. Any costs of such required change to the Specifications (after the initial Specifications have been mutually agreed by the parties) shall be borne by ZKC. In addition, if ZKC requires (i) that the Specifications for Supply Product (including, without limitation, a combination product) to be used in the Territory are different from the specifications for the corresponding product in the Retained Territory and/or (ii) different Specifications because ZKC requires a Supply Product that is different from the product(s) being developed and/or commercialized in the Retained Territory, then [***] of all costs and expenses associated with developing such different Specifications for the Territory shall be ZKC's responsibility, including (without limitation) all process development, manufacturing development, formulation, pre-clinical testing and clinical testing. If Theraclone requests any change to the agreed upon Specifications (including without limitation any change required to meet regulatory requirements in the Retained Territory after the initial Specifications have been mutually agreed by the parties), then [***] of all costs and expenses associated with developing such different Specifications shall be Theraclone's responsibility, including (without limitation) all process development, manufacturing development, formulation, pre-clinical testing and clinical testing. The Specifications shall be considered Confidential Information of both parties pursuant to Article 10 hereof.

**3.2** Manufacturing Process.

(a) Theraclone shall manufacture the Supply Product in accordance in all respects with cGMP and the Specifications and any applicable regulations.

(b) Theraclone shall retain all manufacturing records for the period mutually agreed (including records relevant to the accounting records described in Section 2.2(a)) and not discard them without the prior approval of ZKC, which approval will not be unreasonably withheld or delayed. At a minimum, Theraclone shall retain all of the foregoing records at least for the minimum period required by any law or regulation of the Territory.

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(c) Theraclone shall not modify the processes nor change the facilities for manufacturing, testing, filling, or storage for Supply Product for use in the Territory without the prior approval of ZKC, which approval will not be unreasonably withheld or unreasonably delayed. To avoid doubt, it shall not be an unreasonable delay for ZKC to delay approval if ZKC is waiting for a full reply from the applicable regulatory authority in the Territory or if ZKC requires the timing of the change to be delayed so that there will be no interruption of legally-saleable-in-the-Territory Supply Product to ZKC pending regulatory review. In addition, if Theraclone makes a change under this Section, then Theraclone shall be responsible for ZKC's internal and external regulatory costs.

**3.3** Testing of Supply Product.

(a) Theraclone shall test or cause to be tested each batch of Supply Product manufactured pursuant to this Supply Agreement before delivery to ZKC. Each test shall test for, among other things, manufacture in accordance with the Specifications and all applicable regulatory requirements, including cGMP. Each test shall set forth the Specifications, the items tested, and test results in a certificate of analysis for each batch delivered. Theraclone shall send or cause to be sent such certificates to ZKC along with delivery of Supply Product. Notwithstanding the foregoing, in no event shall Theraclone be required to perform tests that are unique to ZKC (i.e., Theraclone will perform the same tests for all Supply Product regardless of whether such Supply Product is being purchased by ZKC, an Other Licensee, or is being retained for use by Theraclone).

(b) ZKC may, in accordance with regulatory requirements in the Territory, test the Supply Product supplied by Theraclone. Theraclone shall provide ZKC with biological materials, reference standards, assay information and any other in-house reagents at reasonable cost in order for ZKC to test the conformity of the Supply Product supplied by Theraclone to Specifications. Notwithstanding the foregoing, other than any tests requested or required (orally or in writing) by Regulatory Authorities or otherwise required to comply with applicable regulations in the Territory, in no event will ZKC perform testing on the Supply Product that could result in failed production units (i.e., lot failures) in the Retained Territory after such production units have been released by Theraclone; provided, however, that the parties understand and agree that it is their mutual intent that Theraclone shall be entitled to manufacture quantities of Supply Product under this Supply Agreement as separate batches from those that it manufactures for the Retained Territory such that testing by Zenyaku pursuant to this Section will not jeopardize the release of quantities of Supply Product manufactured for the Retained Territory.

## 4. QUALITY ASSURANCE AND INSPECTION.

**4.1** Rejected Goods/Shortages.

(a) ZKC shall notify Theraclone in writing of any claim that any Supply Product does not conform to the Specifications or any shortage in quantity of any shipment of Supply Product within [***] of delivery (in accordance with Section 2.4) of such shipment, or, with respect to any claim that Supply Product did not conform to the Specifications at the time of delivery (in accordance with Section 2.4), which claim could not be discovered upon reasonable inspection of the Supply Product (including the testing of Supply Product set forth in Section 3.3 above and routine visual inspection during such [***]) (a "Latent Defect"), within [***] after becoming aware of or receiving notice of such claim. Upon confirming any such nonconformance or shortage (other than Latent Defects, dealt with separately below in Section 4.1(d), Theraclone shall replace the Supply Product or make up the shortage within [***] of receiving such notice, provided that Theraclone has sufficient conforming Supply Product in its inventory to do so (subject to Section 4.1(c) below), and shall make arrangements with ZKC for the return or destruction of any rejected Supply Product, with any reasonable return shipping charges or costs of destruction to be paid by Theraclone.

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(b) In the event of a conflict regarding any nonconforming Supply Product which Theraclone and ZKC are unable to resolve, a sample of such Supply Product shall be submitted by ZKC to an independent laboratory reasonably acceptable to both parties for testing against the Specifications, and the test results obtained by such laboratory shall be final and binding upon the parties. The test results shall be considered Confidential Information pursuant to Article 10 hereof. The fees and expenses of such laboratory testing shall be borne entirely by the party against whom such laboratory's findings are made. In the event the test results indicate that the Supply Product in question does not conform to the Specifications, Theraclone shall replace such Supply Product with conforming Supply Product within [***] after receipt of such results, provided that Theraclone has sufficient conforming Supply Product in its inventory to do so (subject to Section 4.1(c) below).

(c) If sufficient conforming Supply Product is not available for purposes of Sections 4.1(a) or (b), Theraclone shall use its best efforts to replace the nonconforming Supply Product with conforming Supply Product as soon as possible, but in no event shall the replacement time exceed [***]. For the avoidance of doubt, such replacement set forth herein shall not relieve Theraclone from the liability arising from its delay of the delivery of Supply Product, including liability in the form of the consequences provided for in Article 5.

(d) The remedy for Latent Defects shall be replacement as in subsection (a) if elected in writing by ZKC, and otherwise shall be liability in the form of the consequences provided for in Article 5. The foregoing shall not limit ZKC's rights and Theraclone's obligations under Section 8.

**4.2** Regulatory.

(a) In the event that any change to the Specifications is required by the applicable regulatory authority in the Territory for Supply Product, Theraclone will ensure that such change is met. Such changes to the Specifications will be implemented as amendments to the Specifications as set forth in Section 3.1.

(b) ZKC shall provide updates to Theraclone of (i) the progress of clinical development of Supply Product, (ii) the fact of any investigational new drug application or BLA submissions relating to Supply Product, and (iii) copies of the applicable sections of any ZKC regulatory filings which reference Theraclone, the Supply Product or Theraclone activities. The applicable sections of such ZKC regulatory filings shall be delivered to Theraclone prior to submission of such regulatory filings, and Theraclone shall have thirty (30) days to review and comment prior to their submission. ZKC shall also provide to Theraclone reasonable advance notice of any regulatory submission containing information or data provided by Theraclone to ZKC that ZKC intends and is permitted to disclose to regulatory agencies under this Supply Agreement or the License Agreement. Theraclone shall cooperate with ZKC and provide reasonable assistance to make registration filings for Supply Product as set forth in Section 2.10 of the License Agreement.

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(c) Each party shall keep the other informed of any formal or informal inquiry by any regulatory agency of any state or national government or supranational authority relating to Supply Product supplied hereunder.

(d) Theraclone shall permit representatives of any regulatory agency having jurisdiction over the manufacture and/or marketing of the Supply Product or of any diagnostic assay or other product in which the Supply Product is incorporated (or that is used in conjunction with Supply Product), to inspect its facilities in conjunction with the manufacture, testing, packaging, storage, handling and shipping of the Supply Product. Further, Theraclone shall advise ZKC immediately if Theraclone receives notice of an impending inspection or if an authorized agent of the FDA or other governmental agency visits any of Theraclone's manufacturing facilities concerning the Supply Product. Theraclone shall furnish to ZKC any report including any FDA Form 483 notices (or comparable notices of other agencies), regulatory letters or similar documents received from such agency and the application of such report to the Supply Product, if any, within seven (7) days of Theraclone's receipt of such report.

(e) In the case that Theraclone engages a Third Party manufacturer (subject to ZKC's prior approval as set forth in Section 2.1) in connection with the supply of Supply Product hereunder, then Theraclone will require that such Third Party manufacturer allow inspections by the Japanese and other Territory regulatory authorities (as well as those of the Retained Territory upon whom Japanese or other Territory regulatory authorities rely) of those portions of its facilities where the Supply Products are manufactured, tested, packaged, stored, handled and shipped and where the manufacturing records for the Supply Product are stored, all on terms at least commensurate with those applicable to Theraclone's manufacturing facilities in Section 4.2(d) above.

(f) The parties agree that within [***] after the Effective Date ZKC shall provide Theraclone a draft quality agreement for further discussion between the parties prior to its finalization as an agreement acceptable to Theraclone, ZKC, and Third Party licensees of the Supply Product. Such quality agreement shall be finalized in any event prior to Regulatory Approval of the Supply Product. Such quality agreement shall be fully consistent with and not change the terms of this Supply Agreement or of the License Agreement, and shall be sufficiently detailed to comply with applicable regulatory requirements. To avoid doubt, any terms of such quality agreement that are required by the Regulatory Authority in the Territory need not be acceptable to Theraclone, ZKC and Third Party licensees of the Supply Product (and their consent to such terms as acceptable shall not be required by this Section or it is deemed automatically granted). The out-of-pocket cost of preparing such quality agreement (including Theraclone's and Zenyaku's out-of-pocket, reasonable and documented costs) shall be equally shared by Theraclone and ZKC.

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**4.3** Inspection by ZKC.

(a) Notwithstanding Theraclone's obligation to provide the certificate set forth in Section 3.3, Theraclone shall permit ZKC upon reasonable prior notice, but not less than thirty (30) days, and during regular business hours, at least once per year and at any other time reasonably requested by ZKC and at ZKC's expense, access to (a) those areas of Theraclone's manufacturing facilities where the Supply Product are manufactured, tested, packaged, stored, handled and shipped, and (b) the manufacturing records for the Supply Product manufactured for ZKC.

(b) In the case that Theraclone engages a Third Party with regard to any of its obligations concerning the Supply Product under this Supply Agreement (subject to ZKC's prior approval as set forth in Section 2.1), notwithstanding Theraclone's obligation to provide the certificate set forth in Section 3.3, Theraclone shall use commercially reasonable efforts to require such Third Party to permit ZKC to have the same inspection, access and audit rights that Theraclone has under Theraclone's agreement with such Third Party; provided, however, that in the event that such Third Party will not allow ZKC such access to its facilities and records, then Theraclone will undertake to conduct an inspection and audit on ZKC's behalf and in accordance with ZKC's instructions.

**4.4** Recalls, Product Withdrawals and Field Corrections. If either party becomes aware of any facts or circumstances that suggest a recall, product withdrawal or field correction of a quantity of Supply Product supplied under this Supply Agreement, it shall promptly notify the other party in writing. If there is a recall, product withdrawal or field correction of Supply Product for the Territory, it will be executed in accordance with ZKC's Supply Product recall procedures or other applicable SOP. ZKC shall have the sole right (subject to any instructions from the applicable regulatory authority) to determine whether to implement any recall, product withdrawal or field correction, and Theraclone will provide ZKC with all reasonable assistance. The costs of such recall, product withdrawal or field correction shall be paid by the party whose activity, error, negligence or breach of contract caused such recall, product withdrawal or field correction, or, if neither party's activity, error, negligence or breach of contract occasioned such recall, product withdrawal or field correction, then by ZKC.

## 5. FAILURE TO SUPPLY; ESTABLISHMENT OF ALTERNATE SOURCES.

**5.1** Establishment and Maintenance of Second Source. As of the Effective Date, Theraclone's intended initial manufacturing facility for the Supply Product is [***]. In addition to this facility (or its replacement), no later than twelve (12) months after the Effective Date, Theraclone will submit at least two (2) potential candidates (who are not Other Licensees of Theraclone) to be the second source manufacturers of Supply Product to the JSC and the JSC shall rank order such potential second source manufacturers. No later than twelve (12) months after Regulatory Approval in the Territory (or such other date as may be agreed upon by the parties), Theraclone shall: (a) establish manufacture of the Supply Product at a second facility that is fully accredited by the Regulatory Authority in the Territory, either through contract with a Third Party approved in advance by ZKC (including with respect to the terms of Theraclone's agreement with such Third Party) or through a facility owned by Theraclone or its Affiliate and (b) qualify and validate such manufacture at such facility by no later than twenty four (24) months after Regulatory Approval in the United States so that ZKC may legally sell in the Territory quantities of Supply Product manufactured at such second facility. Such second facility shall have the capacity available and devoted to Supply Product supply to supply (and such second facility shall supply to ZKC) a percentage of worldwide requirements, which percentage shall be agreed upon by the JSC. For purposes of clarity, such second source manufacturer shall be in addition to any of Theraclone's Other Licensees who may be a manufacturing source and shall not be an Other Licensee. For purposes of further clarity, Theraclone may propose the possibility that such second source manufacturer be an Other Licensee, and Zenyaku shall discuss the possibility with Theraclone if requested. Zenyaku may in its sole discretion consent at any time to such second source manufacturer being an Other Licensee. However, Zenyaku shall not be required to give such consent and may withdraw such consent (subject to a reasonable transition period) once given. In any case and without limiting the foregoing, if Zenyaku consents to such second source manufacturer being an Other Licensee, such consent is at all times contingent upon Zenyaku's continued satisfaction with the performance of the Other Licensee. All costs and expenses related to the activities described in this Section 5.1 shall be borne by ZKC except as set forth in the following sentence (i.e., ZKC shall bear all such costs and expenses only if such second source manufacturer is dedicated to supply the Supply Product for ZKC and its Affiliates and Sublicensees only, and not for Theraclone or its Affiliates and Other Licensees). In the event that Theraclone, its Affiliate or an Other Licensee wishes to have a manufacturer or second source manufacturer for Supply Product that is the same second source manufacturer chosen by the parties pursuant to this Section 5.1, then Theraclone shall (and shall require such Affiliate or Other Licensee to) share in the costs and expenses described in this Section 5.1, and sharing will be based on the anticipated or actual amounts of Supply Product ordered by on the one hand ZKC and on the other hand Theraclone, its Affiliate or such Other Licensee (as the case may be) and determined by the JSC. For purpose of clarity, any Supply Product sourced from such second source manufacturer shall be subject to the pricing set forth in Section 2.2 above.

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**5.2** Failure. Subject to the force majeure provision set forth below in Section 12.1, in the event that Theraclone (i) fails to supply quantities of Supply Product properly ordered in accordance with this Supply Agreement for a period of ninety (90) days beyond the delivery date for such Supply Product, or (ii) fails to supply at least [***] of quantities of Supply Product properly ordered in accordance with this Supply Agreement for delivery for any two (2) consecutive calendar quarters (each of such events, a "Supply Failure"), then the following subsections (a) and (b) shall apply:

(a) Within sixty (60) days after a Supply Failure has occurred, ZKC shall notify Theraclone in writing of the Supply Failure having occurred and with respect to: (1) whether or not Zenyaku desires for Theraclone to provide all amounts of Supply Product that if Theraclone had supplied would have prevented the Supply Failure from occurring (and if Zenyaku does so desire, then Theraclone will use Commercially Reasonable Efforts to do so and Zenyaku will be obligated to purchase such amounts requested by Zenyaku to the extent delivered by Theraclone); and (2) whether or not Zenyaku desires to decrease the amount of ordered Supply Product in the then-current Firm Forecast (and if Zenyaku does so desire, the amount of ordered Supply Product in the then-current Firm Forecast will be deemed reduced as set forth in Zenyaku's notice and Zenyaku will be obligated to purchase such amounts requested by Zenyaku to the extent delivered by Theraclone). In addition, if within such 60-day period a new Firm Forecast is due pursuant to Section 2.3(a), then, notwithstanding anything to the contrary in Section 2.3(a), Zenyaku shall have until the end of such 60-day period to deliver such new Firm Forecast.

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(b) Within six (6) months after a Supply Failure has occurred, Zenyaku shall notify Theraclone in writing whether Zenyaku elects to manufacture or have manufactured Supply Products itself or by the second source manufacturer of Section 5.1 or other Third Party designated by ZKC ("Manufacturing Step-In Rights"). If Zenyaku elects to exercise its Manufacturing Step-In Rights, then such Supply Failure shall be deemed an uncured material breach of this Supply Agreement by Theraclone and ZKC shall be deemed to have terminated this Supply Agreement pursuant to Section 6.4 below. To be clear, if ZKC elects to exercise its Manufacturing Step-In Rights, thereafter ZKC shall be released from its covenant not to practice its manufacture and have manufactured rights set forth in Section 5.4; ZKC shall be excused from its obligations under Section 2.1 to satisfy all of its Requirements through Theraclone; and ZKC, in its sole discretion, may choose whether or not to continue to receive from Theraclone all or any portion of ZKC's requirements for Supply Products under this Supply Agreement during the ZKC Termination Period (as defined below in Section 6.6(e)) and any such portions of ZKC's requirements for Supply Products that ZKC does choose to receive from Theraclone shall be subject to the terms governing forecasts and orders set forth in Section 2.3. If ZKC elects to exercise its Manufacturing Step-In Rights, Theraclone will provide ZKC and/or any such Third Party manufacturer with technology transfer consisting of all reasonably necessary information, rights, and cooperation (including site visits) to enable ZKC or such Third Party to manufacture the Supply Product in accordance with the Specifications, and expenses thereof will be equally shared by Theraclone and ZKC.

If ZKC decides to continue to receive any quantities of Supply Products from Theraclone after a Supply Failure, such continuation shall not be construed as reinstating the entire requirements obligations in Section 2.1 and shall not have any impact on ZKC's right and ability to manufacture or have a Third Party manufacture Supply Products. For purposes of clarification, Theraclone's obligations under this Supply Agreement shall continue in full force after a Supply Failure.

**5.3** Escrow of Cell Line. Within ninety (90) days after Zenyaku's request, Theraclone shall deposit with a Third Party escrow agent mutually agreeable to the parties at least [***] to establish working cell banks, together with all reasonable documentation relating to such cell lines (including an SOP for healthy reculture of such cell lines from the frozen sample form in which they will be stored in the escrow) (collectively, the "Cell Line Materials"). The foregoing documentation shall also include master batch records for Supply Product manufacture. ZKC shall be responsible for the costs associated with setting up this cell line escrow and for the storage of the Cell Line Materials. The Third Party shall be in privity of contract with Theraclone and ZKC, and ZKC shall be the beneficiary under such contract. If the deposited Cell Line Materials are destroyed, lost or in any way diminished, upon ZKC's request, Theraclone shall provide additional quantities of the Cell Line Materials in order to restore them to the initial deposit level contemplated by this Supply Agreement at ZKC's cost. If any updates or changes to the documentation relating to the cell lines that produce the Supply Product are created and/or if there are any updates or changes to any of the cell lines used in manufacturing the Supply Product, Theraclone shall promptly deposit them with the escrow agent as part of the Cell Line Materials. Without limiting ZKC's rights under Section 5.2, upon the occurrence of any Supply Failure, the escrow agent shall have full authority and be empowered to (and shall) release the Cell Line Materials to ZKC upon ZKC's request; provided, however, if a Supply Failure has not occurred and ZKC requests such release, such request shall be deemed a material breach of this Supply Agreement and the License Agreement. ZKC shall notify Theraclone if ZKC requests the release of the Cell Line Materials.

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**5.4** License. Subject to the terms and conditions of this Supply Agreement, including but not limited to the covenant and commitment in the next paragraph, Theraclone hereby grants to ZKC an exclusive license (with the right to grant sublicenses through one or multiple tiers in accordance with Section 4.3 of the License Agreement) under the Theraclone Patents, Theraclone Know-How and Theraclone's interest in the Joint Patents to make and have made (a) Licensed Antibodies and Licensed Products in or for the Territory for the Licensed Therapeutic/Prophylactic Field, (b) Clinical-and-Beyond Licensed Antibodies and Diagnostic Products containing them in the Territory for Therapeutic Drug Monitoring and General Diagnostics; and (c) Other Licensed Antibodies and Diagnostic Products containing them in the Territory for Therapeutic Drug Monitoring. Notwithstanding the above, the foregoing license grant is subject to the limitations, conditions, and covenants set forth in the second and fifth paragraph of Section 4.1(a) of the License Agreement. To be clear, the foregoing license may be exercised outside the Territory for the manufacture of Licensed Antibodies and Licensed Products that are exclusively for use or sale in the Territory.

ZKC shall not, and hereby covenants and commits that it and its Affiliates and Sublicensees shall not, exercise ZKC's right to make and have made Licensed Antibodies and/or Licensed Product, other than (x) having Theraclone and the designated Third Party second source manufacturer in Section 5.1 manufacture and supply Supply Product under this Supply Agreement, (y) formulating, filling and finishing Supply Product using bulk drug substance or bulk formulated drug substance provided by Theraclone under this Supply Agreement, or (z) obtaining approval or validation of a second source of supply in accordance with Section 5.1 above, in each case unless and until there has been a Supply Failure in accordance with Section 5.2 above or ZKC is otherwise released from this covenant and commitment pursuant to this Supply Agreement or the License Agreement.

To avoid doubt, the foregoing paragraph applies only to the manufacture of bulk Licensed Antibody and bulk Licensed Product; it does not apply to any other part of the manufacture of Supply Product; ZKC has at all times during the term of this Supply Agreement the right to vial and otherwise finish Supply Product using bulk Supply Product provided by Theraclone, and reserves the right to undertake at its cost any downstream manufacturing required by applicable laws or regulations (e.g., filling, labeling, packaging, etc.) after importation of bulk or vialed Supply Product (as do its Sublicensees).

**6. TERM/TERMINATION.**

**6.1** Term and Expiration. This Supply Agreement shall commence on the Effective Date and shall continue until fifteen (15) years after Supply Product Regulatory Approval in Japan unless (a) earlier terminated by mutual agreement of the parties or in accordance with this Article 6, (b) ZKC elects to continue this Supply Agreement in accordance with Section 15.9 of the License Agreement and this Supply Agreement would naturally expire before the expiration of the three (3) year period after the effective date of such termination (in which case this Supply Agreement shall continue until such period expires (unless earlier terminated in accordance with this Article 6)), or (c) renewed one or more times according to the following. No later than two (2) years prior to the scheduled expiration date of this Supply Agreement, either party may notify the other party in writing that it wishes to extend the term of this Supply Agreement for an additional three (3) years beyond such scheduled expiration date. If the other party wishes to renew this Supply Agreement for such additional period, it shall respond in writing to this effect within three (3) months and this Supply Agreement shall be extended for such additional period. This Supply Agreement may be extended one or more times.

**6.2** Cross-Termination with License Agreement; Expiration of License Agreement. This Supply Agreement shall automatically terminate (a) upon any termination of the License Agreement that results in ZKC's loss of its licenses under the License Agreement pursuant to Section 15.8 of the License Agreement (which provides for the automatic termination of this Supply Agreement) or (b) if ZKC elects to terminate this Supply Agreement pursuant to Section 15.9 of the License Agreement. Upon expiration of the License Agreement under Section 15.2 of the License Agreement, ZKC may at its option elect to terminate this Supply Agreement or allow this Supply Agreement to continue for its then-current term; provided, however, if ZKC elects to allow this Supply Agreement to continue, thereafter ZKC may terminate this Supply Agreement at its option by providing two (2) years prior written notice at any time to Theraclone unless the parties agree otherwise in writing. To be clear, this Supply Agreement shall not terminate upon termination of the License Agreement not resulting in ZKC's loss of its licenses under the License Agreement, unless this Supply Agreement expires or is terminated under the other Sections of this Article 6.

**6.3** Theraclone Cessation of Manufacturing. In the event Theraclone intends to terminate this Supply Agreement prior to the expiration of the term hereof, Theraclone shall notify ZKC in writing accordingly no less than three (3) years prior to the intended date of termination. Upon the earlier of: expiry of such three (3) year notice period, or such time as ZKC has fully validated an alternate source of Supply Product through which ZKC can legally sell in the Territory, this Supply Agreement shall terminate; provided, however, if earlier occurring, this Supply Agreement shall terminate upon the assignment to ZKC (upon ZKC's request) of Theraclone's rights and obligations with respect to the manufacture and supply of Supply Products under Theraclone's agreement therefor with the second source manufacturer described in Section 5.1 above. Theraclone shall continue to supply Supply Products under this Supply Agreement up until the effective date of such termination. Without limiting Theraclone's foregoing obligation to continue to supply Supply Products, Theraclone shall, promptly after notifying ZKC of Theraclone's intention to terminate under this Section, provide ZKC with technology transfer as described in Section 5.2 at Theraclone's cost.

**6.4** Termination With Cause. Upon any material breach of any material provision of this Supply Agreement by either party, the non-breaching party may terminate this Supply Agreement upon sixty (60) days (or in the case of non-payment of undisputed amounts, thirty (30) days) written notice to the breaching party. The notice shall detail the alleged breach and state explicitly that it is a notice under this Section 6.4. The termination shall become effective at the end of such sixty (60) day (or in the case of non-payment, thirty (30) day) period unless the breaching party shall have cured such breach within such period. Furthermore, termination under this Section 6.4, if disputed by the non-terminating party, shall not be effective until the dispute or contest is resolved under Article 11, and then only if the arbitrator finds that the termination is proper. Termination by Zenyaku under this Section shall be subject to Section 6.6 and in particular Section 6.6(e).

**6.5** Termination for Insolvency. Either party may terminate this Supply Agreement upon written notice to the other in the event of (a) insolvency of the other party, or the appointment of a receiver by the other party for all or any substantial part of its properties, provided that such receiver is not discharged within sixty (60) days of its appointment, (b) the adjudication of the other party as a bankrupt, (c) the admission by the other party in writing of its inability to pay its debts as they become due, (d) the execution by the other party of an assignment for the benefit of its creditors or (e) the filing by the other party of a petition to be adjudged as a bankrupt, or a petition or answer admitting the material allegations of a petition filed against the other party in any bankruptcy proceeding, or the acts of the other party to any other judicial proceeding intended to effect a discharge of the debts of the other party, in whole or in part. Termination by Zenyaku under this Section shall be subject to Section 6.6 and in particular Section 6.6(e).

**6.6** Consequences of Expiration or Early Termination. Upon the expiration or termination of this Supply Agreement:

(a) Each party shall return or destroy, and certify to such destruction of, all Confidential Information that is Confidential Information solely of the other party provided or obtained pursuant to this Supply Agreement, except that each party may maintain one (1) copy for archival purposes solely to confirm compliance with the provisions of Article 10 hereof and except that ZKC may retain Confidential Information of Theraclone for so long as ZKC retains any of its licenses under the License Agreement and/or any surviving right to manufacture;

(b) In ZKC's sole discretion, ZKC may purchase the safety stock inventory held by Theraclone for ZKC, if any; and

(c) ZKC may dispose of, by sale or otherwise, any remaining inventory of Supply Product that ZKC may have in its possession on the date of expiration or early termination of this Supply Agreement (and if ZKC has lost its licenses under the License Agreement, the licenses granted to ZKC under the License Agreement shall survive solely for this purpose).

(d) If this Supply Agreement is terminated by Theraclone pursuant to Section 6.3 or if this Supply Agreement is terminated by ZKC pursuant to Section 6.4 or Section 6.5: (i) the licenses granted to ZKC in Section 5.4 shall survive and shall be coterminous with (i.e., remain in effect during the same period of time as) the licenses granted to ZKC under the License Agreement; and (ii) upon the effective date of such termination of this Supply Agreement, ZKC shall be released from its covenant not to practice its manufacture and have manufactured rights set forth in Section 5.4.

(e) Notwithstanding anything to the contrary in this Supply Agreement, no termination of this Supply Agreement by Zenyaku under Section 6.4 or Section 6.5 shall be effective prior to the earlier of: (i) all of the following have been achieved: the establishment, qualification and validation of a Third Party contract manufacturer for Supply Product designated by ZKC or of a Zenyaku facility to do so; in the former case, ZKC and such Third Party contract manufacturer having entered into a supply agreement prior to the effective date of the Theraclone termination of this Supply Agreement; and ZKC may legally sell in the Territory quantities of Supply Product manufactured by such Third Party contract manufacturer or at Zenyaku's facility (i.e., ZKC being able to manufacture or have manufactured Supply Product with no discontinuity vis à vis Theraclone's supply hereunder) or (ii) thirty-six (36) months from the notice of breach under Section 6.4 or insolvency under Section 6.5. It is understood and agreed by the parties that subsection (i) shall be deemed satisfied upon the assignment to ZKC (upon ZKC's request) of Theraclone's rights and obligations with respect to the manufacture and supply of Supply Products under Theraclone's agreement therefor with the second source manufacturer (whether or not an Other Licensee) described in Section 5.1. The period from the end of the specified cure period for the breach or notice of insolvency (as applicable) until the effective date of termination shall be the "**ZKC Termination Period**." During the ZKC Termination Period, ZKC is not required to obtain any or its full requirements from Theraclone under this Supply Agreement, except those amounts of Supply Products that are subject to a Firm Forecast in effect immediately prior to the commencement of the ZKC Termination Period, and ZKC shall be released from its covenant not to practice its manufacture and have manufactured rights set forth in Section 5.4.

**6.7** Inclusive Remedy. Except as otherwise provided in this Supply Agreement, each party shall have the rights and remedies set forth herein in addition to any other remedies which it may have under applicable statutory or common law. Each party shall have the sole discretion to determine which of its rights and remedies, if any, it shall pursue and such party shall not be required to exhaust any of its other rights or remedies before pursuing any one of the rights and remedies set forth in this Supply Agreement.

**6.8** Survival. Expiration or early termination of this Supply Agreement shall not relieve either party of its obligations incurred prior to expiration or early termination. The obligations under Sections 2.2 (with respect to audit rights); 2.7 and 2.8 (with respect to payments due for sales during the term of this Supply Agreement); 4.4 (with respect to Supply Product sold during the term of this Supply Agreement); 6.6; 6.7; and 6.8; and Articles 7, 8, 9, 10, 11 and 12 shall survive any expiration or termination of this Supply Agreement.

**7. REPRESENTATIONS AND WARRANTIES.**

**7.1** By Theraclone. Theraclone hereby represents and warrants to ZKC that:

(a) it has full right to enter into and perform Theraclone's obligations under this Supply Agreement and to supply the Supply Product;

(b) the execution, delivery, and performance of this Supply Agreement does not conflict with, violate or breach any agreement to which Theraclone is a party;

(c) to the best of its knowledge as of the Effective Date, the Supply Product does not infringe any Third Party's right, including without limitation any intellectual property right;

(d) each of the Supply Products manufactured by or for Theraclone shall be manufactured in accordance with the Specifications (including, to avoid doubt, the manufacturing methods and processes and assay procedures specified in the Specifications or otherwise agreed by the parties whether or not explicitly stated in the Specifications) and all applicable regulatory requirements, including cGMP;

(e) each of the Supply Products manufactured by or for Theraclone shall, upon delivery, meet the Specifications and all applicable regulatory requirements, including cGMP, and shall not have been misused, contaminated, tampered with or otherwise altered or mishandled prior to the time of delivery; and

(f) it has not engaged, and does not (and Theraclone hereby covenants that it shall not) engage, any employee, consultant or other personnel that has been debarred or disqualified by the FDA or other regulatory authority, or, to the best of its knowledge, that is the subject of debarment or disqualification proceedings by the FDA or other regulatory authority; Theraclone hereby covenants that if Theraclone becomes aware of or receives notice of the debarment or disqualification of (or any proceedings regarding the debarment or disqualification of) any person providing services to Theraclone which relate to services being provided under this Supply Agreement, Theraclone shall notify ZKC immediately and address the issue as reasonably directed by ZKC.

Theraclone hereby covenants that it shall obtain these same representations, warranties and covenants ((a) - (f)) from any Third Party manufacturer that it may engage, subject to ZKC's prior approval as set forth in Section 2.1.

**7.2** By ZKC. ZKC hereby represents and warrants to Theraclone that:

(a) it has the full right to enter into and perform ZKC's obligations under this Supply Agreement; and

(b) the execution, delivery and performance of this Supply Agreement does not conflict with, violate or breach any agreement to which ZKC is a party.

**7.3** Extent of Warranties. EXCEPT AS SPECIFICALLY PROVIDED IN THIS SUPPLY AGREEMENT, THE SUPPLY PRODUCT IS SUPPLIED "AS IS" AND THERACLONE HEREBY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES OF ANY KIND WITH REGARD TO THE SUPPLY PRODUCT, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, AND ANY OTHER STATUTORY WARRANTIES.

**8. INDEMNIFICATION.**

The parties' obligations with respect to indemnification are set forth in the License Agreement.

**9. LIMITATION OF LIABILITY.**

EXCEPT WITH RESPECT TO A PARTY'S INDEMNIFICATION OBLIGATIONS UNDER THIS SUPPLY AGREEMENT OR BREACH OF THE CONFIDENTIALITY OBLIGATIONS IN ARTICLE 10, IN NO EVENT WILL EITHER PARTY HERETO BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES SUFFERED BY THE OTHER PARTY ARISING IN ANY WAY OUT OF THIS SUPPLY AGREEMENT, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY. THIS LIMITATION WILL APPLY EVEN IF THE PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

**10. CONFIDENTIALITY; PUBLICITY; PUBLICATIONS.**

**10.1** Sections 11.3 through 11.7 of the License Agreement shall apply to this Supply Agreement as if set forth fully within this Supply Agreement.

**11. GOVERNING LAW; ARBITRATION.**

**11.1** Article 12 of the License Agreement shall apply to this Supply Agreement as if set forth fully within this Supply Agreement.

**12. GENERAL PROVISIONS.**

**12.1** Miscellaneous. Section 17.1 (Force Majeure), Section 17.2 (Severability), Section 17.4 (Notices), Section 17.5 (Independent Contractors), Section 17.6 (Unenforceable Provisions), Section 17.7 (Waiver), Section 17.8 (Construction), Section 17.9 (Headings) and Section 17.10 (Counterparts) of the License Agreement shall apply to this Supply Agreement as if set forth fully within this Supply Agreement.

**12.2** Entire Agreement. This Supply Agreement and all Exhibits hereto, entered into as of the date first written above, together with the License Agreement, constitutes the entire agreement between the parties relating to the subject matter hereof and supersedes all previous writings and understandings. No terms or provisions of this Supply Agreement shall be varied or modified by any prior or subsequent statement, conduct or act of either of the parties, except that the parties may mutually amend this Supply Agreement by written instruments specifically referring to and executed in the same manner as this Supply Agreement.

**12.3** Assignment. Neither this Supply Agreement nor any interest hereunder shall be assignable by either party without the written consent of the other (which consent will not be unreasonably withheld or delayed); *provided*, *however*, that either party may assign this Supply Agreement to any of such party's Affiliates (for so long as such Affiliate remains Affiliated with such party) or to any corporation or other entity with which such party may merge or consolidate (regardless of who is the surviving entity of such merger or consolidation), and/or to any corporation or other entity to which such party may transfer all or substantially all of such party's assets to which this Supply Agreement relates or all or substantially all of such party's stock, without obtaining the consent of the other party. Transfer in contravention of this Section shall be considered a material breach of this Supply Agreement pursuant to Section 6.4. Subject to other provisions of this Section, all rights and obligations under this Supply Agreement and the licenses herein granted shall be binding upon and inure to the benefit of the successors in interest of the respective parties. Any assignment in violation of the foregoing shall be null and void.

To avoid doubt, this Section shall not limit ZKC's ability to require delivery of Supply Products directly to ZKC's Affiliates and Sublicensees for use in the Territory. The foregoing sentence shall not be interpreted to deem such Affiliates and Sublicensees third party beneficiaries of this Supply Agreement.

**12.4** Costs and Expenses. For purpose of clarity, where in this Supply Agreement a cost and/or expenses is allocated to one of the parties hereto, unless such cost or expense is specifically stated to be included in the calculation of Fully Burdened Manufacturing Cost, such cost or expense shall be billed or invoiced to the responsible party by the receiving party and the responsible party shall pay such bill or invoice within thirty (30) days or receipt thereof.

[Signature page follows.]

IN WITNESS WHEREOF, each of the parties hereto has caused this Supply Agreement to be executed by its duly authorized officer as of the date first Written above.

THERACLONE SCIENCES, INC.

By: _____

ZENYAKU KOGYO CO., LTD.

By: _____

EXHIBIT A

SUPPLY PRODUCTS

EXHIBIT B

SPECIFICATIONS

**EXHIBIT G**

**EXISTING THERACLONE IN-LICENSES**

With reference to Section 14.2(vii):
[***]

With reference to Section 14.2(viii):
[***]

***Confidential Treatment Requested.**

**Exhibit 10.66**

[***] Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

# RESEARCH COLLABORATION AND LICENSE AGREEMENT

by and between

**PFIZER INC.**

**and**

**COVX TECHNOLOGIES IRELAND LIMITED**

and

**THERACLONE SCIENCES, INC.**

**December 17, 2010**

**RESEARCH COLLABORATION AND LICENSE AGREEMENT**

This Research Collaboration and License Agreement (the "Agreement") is entered into as of December 17, 2010 (the "Execution Date"), by and, between Pfizer Inc., a corporation organized and existing under the laws of Delaware and having a principal place of business at 235 East 42nd St., New York, NY 10017 **CovX Technologies Ireland Limited**, an Affiliate corporation of Pfizer, organized and existing under the laws of **Ireland** and having a place of business at 122 Ranelagh, Dublin 6, Ireland (individually and collectively "Pfizer") and Theraclone Sciences, Inc., a corporation organized and existing under the laws of Delaware and having a principal place of business at 1124 Columbia Street, Suite 300, Seattle, WA 98104, USA ("Collaborator"). Pfizer and Collaborator may each be referred to herein individually as a "Party" and collectively as the "Parties."

WHEREAS, Collaborator owns or otherwise controls certain patents, patent applications, technology, know-how, scientific and technical information and other proprietary rights and information relating to the identification, research and development of Antibodies (as defined below);

WHEREAS, Pfizer has extensive experience and expertise in the development and commercialization of pharmaceutical products, and desires to acquire an exclusive license in the Territory (as defined below) under Collaborator's patents, patent applications, technology, know-how, scientific and technical information and other proprietary rights and information relating to Antibodies;

WHEREAS, Pfizer and Collaborator wish to engage in collaborative research 'regarding Antibodies and potential Products (as defined below); and

WHEREAS, subject to the terms of this Agreement, Collaborator wishes to grant to Pfizer, and Pfizer wishes to receive from Collaborator, an exclusive license in the Territory to use, research, develop, manufacture and commercialize Antibodies and Products.

NOW THEREFORE, in consideration of the mutual promises and covenants set forth below and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

**1. DEFINITIONS AND INTERPRETATION.**

**1.1. Defined Terms.** Capitalized terms not otherwise defined herein shall have the meanings set forth in Exhibit A.

**2. LICENSE GRANTS AND TECHNOLOGY TRANSFER.**

**2.1. Exclusive License from Collaborator to Pfizer**. Effective as of the Effective Date, Collaborator hereby grants to Pfizer an exclusive license (exclusive even as to Collaborator), with the right to sublicense, under the Collaborator Technology, to use, have used, Develop, have Developed, Manufacture, have Manufactured, Commercialize and have Commercialized Antibodies and Products in the Territory.

'

**2.2. Reciprocal Non-Exclusive Research License for Disclosed Know-How and Confidential Information**. Subject to any preexisting exclusive license grants to Third Parties, and without limiting any other license granted to either Party under this Agreement:

**2.2.1.** Pfizer hereby grants to Collaborator a non-exclusive, irrevocable, perpetual, royalty-free, fully paid-up, worldwide license, with the right to sublicense to Collaborator Affiliates, to use for research purposes all Pfizer Know-How or Pfizer Confidential Information that is disclosed to Collaborator during the Term.

**2.2.2.** Collaborator hereby grants to Pfizer a non-exclusive, irrevocable, perpetual, royalty-free, fully paid-up, worldwide license, with the right to sublicense to Pfizer Affiliates, to use for research purposes all Collaborator Know-How or Collaborator Confidential Information that is disclosed to Pfizer during the Term.

**2.3. No Implied Rights**. Except as expressly provided in this Agreement, neither Party shall be deemed to have granted the other Party (by implication, estoppel or otherwise) any right, title, license or other interest in or with respect to any intellectual property, Know-How or information Controlled by such Party.

## 3. PAYMENTS BY PFIZER TO COLLABORATOR.

**3.1. Initial Research Payment**. Within forty-five (45) days of receipt of invoice from Collaborator following the Effective Date, Pfizer shall pay Collaborator a payment of [***].

**3.2. Additional Target Option Payment**. In the event the parties agree on a fourth Target, within forty-five (45) days of receipt of invoice from Collaborator following the identification of the fourth Target, Pfizer shall pay Collaborator a payment of [***].

**3.3. Research Funding**. Pfizer will make the following one-time payments (each a “Preclinical Milestone Payment”) to Collaborator within forty-five (45) days of receipt of invoice from Collaborator upon the first achievement of the applicable event listed below for the Research Plans for each Infectious Disease Target (each, a “Preclinical Milestone Event”).

| | |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

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Pfizer will make the following one-time Preclinical Milestone Payments to Collaborator within forty-five (45) days of receipt of invoice from Collaborator upon the first achievement of the applicable Preclinical Milestone Event listed below for the Research Plans for each cancer Target.

| | |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

Collaborator shall be solely responsible for all expenses it incurs in performing its obligations under the Research Program; provided, however, that if Pfizer requests changes or additions to the Research Plan that cause additional fees or expenses (including but not limited to cost of labor) to be incurred by Collaborator, then the Parties shall agree in advance on the amount of such additional fees and expenses and Pfizer shall pay Collaborator for such additional fees and expenses within forty-five (45) days following Pfizer's receipt of an invoice therefor. Upon completion of a Preclinical Milestone Event, Collaborator will submit an invoice which shall be accompanied by reasonable supporting documentation evidencing achievement of the Preclinical Milestone Event and Pfizer will pay Collaborator within forty-five (45) days following Pfizer's receipt of each such properly documented invoice.

**3.4. Development Payments**. Pfizer shall notify Collaborator within fifteen (15) days of achievement of a Development Event and pay Collaborator the amounts set forth below within forty-five (45) days of receipt of invoice from Collaborator following the first occurrence of each event described below for the first Product to achieve such event against each Target (each, a "Development Payment").

| | Development Event | Development Payment |
|---|---|---|
| (i) | [***] | [***] |
| (ii) | [***] | [***] |
| (iii) | [***] | [***] |
| (iv) | [***] | [***] |
| (v) | [***] | [***] |

Each of the Development Payments set forth above shall be payable one time only for each Target, regardless of the number of Products that target the same Target. For clarification, if one Product replaces another Product in Development, then such replacement Product shall only be subject to Development Payments that have not previously been triggered by one or more prior Products. The maximum amount payable by Pfizer in respect of Development Payments if all Development Events occur for any Target shall be [***].

***Confidential Treatment Requested.**

**3.5. Sales Milestone Payments**. Pfizer shall pay Collaborator the following one-time payments for each Target (each, a "Sales Milestone Payment") when Net Sales of Product for each Target in a Pfizer Year in the Territory (the "Total Annual Net Sales") first reach the respective thresholds indicated below:

| Total Annual Net Sales | Sales Milestone Payment |
|---|---|
| [***] | [***] |
| [***] | [***] |

Pfizer shall make any Sales Milestone Payment payable with respect to a Pfizer Year within 60 days after the end of the applicable Pfizer Year. For the avoidance of doubt, each of the Sales Milestone Payments set forth above shall be payable one time only for each Target, regardless of the number of times the corresponding Total Annual Net Sales levels are achieved.

**3.6. Royalty Payments**.

**3.6.1. Royalties**. Subject to the provisions of Section 3.6.3, Pfizer shall pay Collaborator royalties in the amount of the Marginal Royalty Rates (set forth below) of the aggregate Net Sales resulting from the sale of Products, on a Product-by-Product basis, in the Territory during each Pfizer Year of the applicable Royalty Term for each Product (each, the "Per Product Annual Net Sales"):

| Per Product Annual Net Sales | Marginal Royalty Rate (% of Per Product Annual Net Sales) |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

Each Marginal Royalty Rate set forth in the table above shall apply only to that portion of the Net Sales of a given Product in the Territory during a given Pfizer Year that falls within the indicated range.

**3.6.2. Fully Paid-Up, Royalty Free License**. Following expiration of the Royalty Term for any Product in a given country, no further royalties shall be payable in respect of sales of such Product in such country and, thereafter the licenses granted to Pfizer with respect to such Product in such country shall automatically become fully paid-up, perpetual, irrevocable and royalty-free.

**3.6.3. Royalty Adjustments**. The following adjustments shall be made, on a Product-by-Product and country-by-country basis, to the royalties payable pursuant to Section 3.6:

***Confidential Treatment Requested.**

(a) **Third Party Patents**. If it is necessary or desirable for Pfizer to license one or more Patent Rights from one or more Third Parties in order to Develop, Manufacture, Commercialize or use any Product, whether directly or through any Pfizer Affiliate or Sublicensee, then Pfizer may, in its sole discretion, negotiate and obtain a license under such Patent Right(s) (each such Third Party license referred to herein as an "Additional Third Party License"). Any royalty otherwise payable to Collaborator under this Agreement with respect to Net Sales of any Product by Pfizer, its Affiliates or Sublicensees shall be reduced by [***] of the amounts payable to Third Parties pursuant to any Additional Third Party Licenses, such reduction to continue until all such amounts have been expended, *provided however that* in no event shall the total royalty payable to Collaborator for any Product be less than [***] of the royalty amounts otherwise payable for such Product.

(b) **No Adjustment for Collaborator Third Party Agreements**. Collaborator shall be solely responsible for (i) all obligations (including any royalty or other obligations that relate to the Collaborator Technology or Collaborator Platform Technology) under its agreements with Third Parties that are in effect as of the Effective Date or that Collaborator enters into during the Term and (ii) all payments to inventors (other than inventors that are Representatives of Pfizer) of Collaborator Technology, Collaborator Platform Technology, or Sponsored Research Technology, including payments under inventorship compensation Laws.

(c) **Biosimilar Entry**. Any royalty otherwise payable to Collaborator under this Agreement with respect to Net Sales of a given Product in a given country in the Territory will be reduced by [***] for so long as third party Biosimilar versions of such Product become available and are being sold in such country and have at least [***] of the total market in such country. "Biosimilar Version" of a Product means

(i) a pharmaceutical product containing as the sole active ingredient(s) an antibody (or antibodies) having the same primary sequence as the Antibody(ies) in such Product, and which can be commercially sold without infringing a Valid Claim in a patent in the Collaborator Technology and/or Sponsored Research Technology**, or**

**(ii)** a biological product that, through reference to a Product that has already received regulatory approval from the applicable Regulatory Authority (with respect to such Product, a "Reference Product"), is eligible for Regulatory Approval in a country or jurisdiction pursuant to the least restrictive abbreviated follow-on biological approval pathway established by the Regulatory Authority in such country or jurisdiction pursuant to laws (as may be amended, or any subsequent or superseding law) or otherwise is approved or eligible for Regulatory Approval in reliance, in whole or in part, on the prior Regulatory Approval of a Reference Product or on the safety and efficacy data generated for the prior Regulatory Approval of a Reference Product, including any biological product that (a) has been approved or would be eligible for approval as a biosimilar or interchangeable product by the FDA pursuant to Section 351(k) of the Public Health Service Act (42 U.S.C. 262(k)), as may be amended, or any subsequent or superseding law, statute or regulation, (b) has been approved or would be eligible for approval as a similar biological medicine product by EMA as described in CHMP/437/04, issued 30 October 2005, as may be amended, or any subsequent or superseding law, statute or regulation or (c) has otherwise obtained Regulatory Approval from a Regulatory Authority analogous to those regulatory approvals described in clauses (a) and (b) in this paragraph, including the FDA's approval of any ANDA or Section 505(b)(2) Application.

***Confidential Treatment Requested.**

**3.7. Reports and Payments**.

**3.7.1. Cumulative Royalties**. The obligation to pay royalties under this Agreement shall be imposed only once with respect to any sale of any Product.

**3.7.2. Royalty Statements and Payments**. Within 60 days of the end of each Calendar Quarter, Pfizer shall deliver to Collaborator a report setting forth, for the most recent Pfizer Quarter ending during such Calendar Quarter, the following information, on a Product-by-Product, country-by-country and Territory-wide basis: (a) Net Sales of each Product, (b) the basis for any adjustments to the royalty payable for the sale of any such Product and (c) the royalty due hereunder for the sale of each such Product. The total royalty due for the sale of all such Products during such Pfizer Quarter shall be remitted at the time such report is made.

**3.7.3. Taxes and Withholding**. It is understood and agreed between the Parties that any payments made by Pfizer under this Agreement are inclusive of any value added or similar tax imposed upon such payments. In addition, in the event any payments made by Pfizer pursuant to this Agreement become subject to withholding taxes under the Laws or regulations of any jurisdiction or Governmental Authority, Pfizer shall deduct and withhold the amount of such taxes for the account of Collaborator to the extent required by applicable Laws or regulations; such amounts payable to Collaborator shall be reduced by the amount of taxes deducted and withheld; and Pfizer shall pay the amounts of such taxes to the proper Governmental Authority in a timely manner and transmit to Collaborator an official tax certificate or other evidence of such tax obligations together with proof of payment from the relevant Governmental Authority of all amounts deducted and withheld sufficient to enable Collaborator to claim such payment of taxes. Any such withholding taxes required under applicable Laws or regulations to be paid or withheld shall be an expense of, and borne solely by, Collaborator. Pfizer will provide Collaborator with reasonable assistance to enable Collaborator to recover such taxes as permitted by applicable Laws or regulations.

**3.7.4. Currency**. All amounts payable and calculations under this Agreement shall be in United States dollars. As applicable, Net Sales and any royalty deductions shall be translated into United States dollars at the exchange rate used by Pfizer for public financial accounting purposes.

**3.7.5. Method of Payment**. Each payment shall be made by electronic transfer in immediately available funds via either a bank wire transfer, an ACH (automated clearing house) mechanism, or any other means of electronic funds transfer, at Pfizer’s election, to such bank account as the Collaborator shall designate in writing to Pfizer.

**3.7.6. Record Keeping**. Pfizer shall keep and shall cause its Affiliates and Sublicensees to keep books and accounts of record in connection with the sale of Products in sufficient detail to permit accurate determination of all figures necessary for verification of royalties and Sales Milestone Payments to be paid hereunder. Pfizer and its Affiliates shall maintain such records for a period of at least 3 years after the end of the Pfizer Quarter in which they were generated.

**3.7.7. Audits**. Upon 30 days prior notice from Collaborator, Pfizer shall permit an independent certified public accounting firm of nationally recognized standing selected by Collaborator and reasonably acceptable to Pfizer, to examine, at Collaborator's sole expense, the relevant books and records of Pfizer and its Affiliates as may be reasonably necessary to verify the amounts reported by Pfizer in accordance with Section 3.7.2 and the payment of royalties and Sales Milestone Payments hereunder. An examination shall occur not more than once in any Calendar Year and shall be limited to the pertinent books and records for any Calendar Year ending not more than three 3 years before the date of the request. The accounting firm shall be provided access to such books and records at Pfizer's or its Affiliates' facility(ies) where such books and records are normally kept and such examination shall be conducted during Pfizer's normal business hours. Pfizer may require the accounting firm to sign a reasonably acceptable non-disclosure agreement before providing the accounting firm with access to Pfizer's or its Affiliates' facilities or records. Upon completion of the audit, the accounting firm shall provide both Pfizer and Collaborator a written report disclosing any discrepancies in the reports submitted by Pfizer or the royalties or Sales Milestone Payments paid by Pfizer, and, in each case, the specific details concerning any discrepancies. No other information shall be provided to Collaborator.

**3.7.8. Underpayments/Overpayments**. If such accounting firm concludes that additional royalties or Sales Milestone Payments were due to Collaborator, then Pfizer will pay to Collaborator the additional royalties or Sales Milestone Payments within (60) days of the date Pfizer receives such accountant's written report. Further, if the amount of such underpayments exceeds more than 5% of the amount that was properly payable to Collaborator, then Pfizer shall reimburse Collaborator for Collaborator's out-of-pocket costs in connection with the audit. If such accounting firm concludes that Pfizer overpaid royalties or Sales Milestone Payments to Collaborator, then Collaborator will refund such overpayments to Pfizer, within 60 days of the date Collaborator receives such accountant's report.

**3.7.9. Confidentiality**. Notwithstanding any provision of this Agreement to the contrary (a) all reports and financial information of Pfizer, its Affiliates or its Sublicensees which are provided to Collaborator shall be deemed to be Pfizer's Confidential Information and subject to the provisions of Section 7.

**3.8. No Guarantee of Success**. Pfizer and Collaborator agree that payments to Collaborator pursuant to Section 3 are solely intended to allocate amounts that may be achieved upon successful Development or Commercialization of a Product or Product, and are not intended to be used as a measure of damages if this Agreement is terminated for any reason, including pursuant to Pfizer's right to terminate at for convenience. Pfizer and Collaborator agree that nothing in this Agreement will be construed as representing any estimate or projection of the anticipated sales or the actual value of any Products that may be successfully Developed or Commercialized under this Agreement or the damages, if any, that may be payable if this Agreement is terminated for any reason. Pfizer makes no representation, warranty or covenant, either express or implied, that it will successfully Develop, Manufacture, Commercialize or continue to Develop, Manufacture or Commercialize any Product in any country, or if Commercialized, that any Product will achieve any particular sales level, whether in any individual country or cumulatively throughout the Territory.

**3.9. Non-Refundable**. Except as specifically set forth in Section 3.7.8, all payments made under this Section 3 are non-refundable and non-creditable.

**3.10. Past Due Amounts**. Any amount owed by Pfizer to Collaborator under this Agreement that is not paid within the applicable time period set forth herein will accrue interest until paid at the annual rate of [***] above the then-applicable short-term three-month London Interbank Offered Rate (LIBOR) as quoted in the Wall Street Journal, New York Edition (or if it no longer exists, a similarly authoritative source) calculated on a daily basis, or, if lower, the highest rate permitted under applicable law.

**3.11. Obligation to Make Payments.** For purpose of clarity, in the event that Pfizer sublicenses, assigns, or transfers any of its rights hereunder (including, without limitation its rights to any Antibodies or Products) or effects any similar transaction, Pfizer shall remain obligated to make any and all payments owed to Collaborator as set forth in this Section 3.

## 4. RESEARCH PROGRAM.

**4.1. Scope of Research and Targets**. Beginning on the Effective Date of the Agreement and ending on the third anniversary thereof (the "Research Term"), Pfizer and Collaborator would collaborate to conduct research to identify, screen and evaluate Antibodies against up to four Targets in accordance with a Research Plan, a template of which attached as Exhibit C for [***] Targets and Exhibit D for [***] Targets. Pfizer and Collaborator have agreed that the first and second Targets will be [***] and [***]. For the second [***] Target and fourth Target, Pfizer will propose the Target and unless Collaborator has licensed another Person to exclusively develop and commercialize the proposed Target, the parties will draft a specific Research Plan, which Research Plan must be agreeable to both Parties, for the second Target. During the Research Term, Collaborator will work exclusively with Pfizer to identify Products to the Targets. Pfizer hereby agrees that Collaborator's existing programs in the fields of [***] preclude such disease indications from being Targets.

***Confidential Treatment Requested.**

**4.2. Research Plan**. All research conducted in connection with the Research Program will be performed by the Parties in accordance with the Research Plan. The parties may agree to modify the Research Plan.

**4.3. Allocation of Responsibilities**.

**4.3.1. General**. Each Party shall use Commercially Reasonable Efforts to perform its obligations under the Research Plan in a professional and timely manner.

**4.3.2. Collaborator Research Obligations**. During the Research Term, Collaborator shall devote the resources necessary to achieve the Preclinical Milestone Events.

**4.3.3. Pfizer Oversight of Research Activities**. Pfizer will oversee and retain final decision making authority with respect to all research activities performed under this Agreement. Without limiting the foregoing, Pfizer shall oversee the evaluation of all Antibodies identified by the Collaborator and will provide feedback and guidance to Collaborator and the Qualified Researchers regarding such Antibodies.

**4.4. Research Program Governance**.

**4.4.1. Collaboration Management**. Each Party shall appoint a single individual to act as the primary point of contact between the Parties to support the Research Program (the "Alliance Managers"). Each Party may change its designated Alliance Manager at any time upon written notice to the other Party. The Alliance Managers shall: (i) use good faith efforts to attend (either in person or by telecommunications) all meetings of the JRC, but shall be non-voting members at such meetings; and (ii) be the first point of referral for all matters of conflict resolution, and bring disputes to the attention of the JRC in a timely manner.

**4.4.2. Joint Research Committee**.

(a) *Composition*. The Parties shall establish a Joint Research Committee, comprised of three representatives of Collaborator and three representatives of Pfizer. Each Party may replace its representatives to the JRC at any time upon notice to the other Party. Each Party may invite non-voting employees and consultants to attend meetings of the JRC.

(b) *Committee Chair*. The JRC shall be chaired by a Pfizer JRC member (the "JRC Chair"). Pfizer may replace the JRC Chair at any time upon notice to Collaborator.

(c) *Meetings*. During the Research Term, the JRC shall meet on a Calendar Quarter basis, either in-person or by audio or video teleconference. Meetings of the JRC will only occur if at least one representative of each Party is present at the meeting or participating by teleconference or videoconference. The Parties will take turns running the meetings. The Party running the meeting shall: (i) to notify the other Party at least 30 days in advance of each JRC meeting; (ii) collect and organize agenda items for each JRC meeting; and (iii) prepare the written minutes of each JRC meeting and circulate such minutes for review and approval by the Parties, and identify action items to be carried out by the Parties. Each Party shall be responsible for all of its own expenses of participating in such JRC meetings. The Parties shall endeavor to schedule meetings of the JRC at least three months in advance. The Parties shall agree on the minutes of each meeting promptly, but in no event later than the next meeting of the JRC.

(d) *Responsibilities*. The JRC shall oversee and supervise the overall performance of the Research Plan and within such scope shall: (i) review the efforts of the Parties under the Research Plan and allocate resources of each Party to perform the activities; (ii) revise and approve any revised Research Plan; (iii) identify potential Product candidates; and (iv) attempt to resolve any disputes relating to the Research Program on an informal basis.

(e) *Decision-making*. In spite of the number of Pfizer JRC members or Collaborator JRC members, each Party shall have one vote, and the JRC shall make decisions by consensus. If the JRC is unable to reach consensus, Pfizer shall have the right to make the final decision. In the event of a dispute between the Parties with regard to the performance of the Research Program, the matter shall be first referred to the Alliance Managers for resolution, and if not resolved, then shall be further escalated and resolved in accordance with the provisions of Section 11.11.

(f) *Limits on JRC Authority*. Notwithstanding any provision of this Section 4.4 to the contrary, each Party shall retain the rights, powers and discretion granted to it under this Agreement and no such rights, powers, or discretion shall be delegated to the JRC unless expressly provided for in this Agreement. The JRC shall not have the power to amend this Agreement or otherwise modify or waive compliance with this Agreement in any manner

(g) *Term*. The JRC shall be dissolved immediately upon expiration of the Research Term, unless the Parties otherwise agree in writing.

**4.5. Research Term Extension**. The parties may extend the Research Term by mutual agreement.

**4.6. Research Program Expenses**. Except as expressly set forth in Section 3.3, each Party shall bear all costs and expenses it incurs in connection with its activities under the Research Program.

**4.7. Transfer of Materials from Pfizer to Collaborator**.

**4.7.1. Transfer**. From time to time during the Research Term, Pfizer may, in its sole discretion, provide Collaborator with tangible chemical or biological materials (the "Pfizer Materials"). Pfizer represents and warrants to Collaborator that Pfizer has the right to provide the Pfizer Materials to Collaborator. Except as expressly set forth in the preceding sentence, the Pfizer Materials are provided by Pfizer on an "as-is" basis without any representation or warranty of any type, express or implied, including any representation or warranty of merchantability, non-infringement, title or fitness for a particular purpose, each of which is hereby expressly disclaimed by Pfizer.

**4.7.2. Permitted Use of Pfizer Materials**. Collaborator shall use the Pfizer Materials solely in connection with conducting the activities specified in the Research Plan (the "Permitted Activities"). Except in the performance of the Permitted Activities, Collaborator shall not (a) make or attempt to make any analogues, progeny or derivatives of, or modifications to, the Pfizer Materials or (b) use the Pfizer Materials for its own benefit or for the benefit of any of its Affiliates or any Third Party. Collaborator shall retain possession over the Pfizer Materials and not provide any Pfizer Materials to any of its Affiliates or to any Third Party without Pfizer's prior written consent, which consent may be withheld in Pfizer's sole discretion.

**4.7.3. Unauthorized Use of Pfizer Materials**. If Collaborator uses any Pfizer Material in any manner other than in the performance of the Permitted Activities, then any and all results of such unauthorized use, whether patentable or not, shall belong solely and exclusively to Pfizer. Collaborator, on behalf of itself and its Affiliates, hereby assigns and agrees to assign to Pfizer all of Collaborator's and its Affiliates' right, title and interest in and to all such discoveries and inventions. Collaborator further agrees to cooperate with Pfizer to execute and deliver any and all documents that Pfizer deems reasonably necessary to perfect and enforce Pfizer's rights under this Section.

**4.7.4. Title to Pfizer Materials**. All right, title and interest in and to the Pfizer Materials shall remain the sole and exclusive property of Pfizer notwithstanding the transfer to and use by Collaborator.

**4.7.5. Return of Pfizer Materials**. At the end of the Research Term (or such earlier time as Pfizer may request in writing), Collaborator shall either destroy or return to Pfizer, at Pfizer's sole discretion, all unused Pfizer Materials.

**4.7.6. Ownership of Material Improvements**. "Pfizer Material Improvement" means any idea, concept, discovery, invention, Know-How, trade secret, technique, methodology, modification, innovation, result, improvement, writing, documentation, data, research material or right that (a) is conceived, discovered, invented, developed, created, made or reduced to practice or tangible medium by Collaborator through the use of or otherwise involving or by reference to any Pfizer Material or (b) constitutes any improvement or enhancement to, or a derivative or modification of, any Pfizer Material or any method of making or using any Pfizer Material. Collaborator, on behalf of itself and its Affiliates, hereby assigns and agrees to assign to Pfizer all of Collaborator's and its Affiliates' right, title and interest in and to any and all Pfizer Material Improvements. Collaborator shall promptly notify Pfizer of any Pfizer Material Improvement made by Collaborator or its Affiliates and shall cooperate fully in obtaining patent and other proprietary protection for such Pfizer Material Improvement. Such protection shall be obtained in the name of Pfizer and at Pfizer's cost and expense, and Collaborator shall, and shall cause its Affiliates to, execute and deliver all requested applications, assignments and other documents, and take such other actions as Pfizer may reasonably request, in order to perfect and enforce Pfizer's rights in any Pfizer Material Improvement.

## 5. PRODUCT DEVELOPMENT AND COMMERCIALIZATION.

**5.1. General**. Subject to the provision of Section 4, Pfizer shall have sole authority over and control of the Development, Manufacture, Regulatory Approval and Commercialization of Antibodies and Products.

**5.2. Diligence**.

**5.2.1. Development Diligence**. Pfizer will use Commercially Reasonable Efforts to Develop and seek Regulatory Approval for at least one Product in at least one indication in at least one Major Market Country for each Target. Pfizer will have no other diligence obligations with respect to the Development or Regulatory Approval of Products under this Agreement.

**5.2.2. Commercial Diligence**. Pfizer will use Commercially Reasonable Efforts to Commercialize a given Product in each Major Market Country in the Territory where Pfizer or its designated Affiliates or Sublicensees seek and receive Regulatory Approval for such Product. Pfizer will have no other diligence obligations with respect to the Commercialization of Products under this Agreement.

**5.2.3. Exceptions to Diligence Obligations**. Notwithstanding any provision of this Agreement to the contrary, Pfizer will be relieved of all Pfizer Diligence Obligations to the extent that:

(a) Pfizer or Collaborator receives or generates any safety, tolerability or other data reasonably indicating, as measured by Pfizer's safety and efficacy evaluation criteria and methodology, or signaling that a Product has or would have an unacceptable risk-benefit profile or is otherwise not reasonably suitable for initiation or continuation of Clinical Trials;

(b) Pfizer or Collaborator receive any notice, information or correspondence from any applicable Regulatory Authority, or any applicable Regulatory Authority takes any action, that reasonably indicates that a Product is unlikely to receive Regulatory Approval;

(c) Collaborator fails to fulfill its obligations under the Research Plan or this Agreement and such failure prevents Pfizer from fulfilling the Pfizer Diligence Obligations.

**5.2.4. Deemed Satisfaction of Pfizer Diligence Obligations**. Without in any way expanding Pfizer's obligations under this Agreement, Pfizer's achievement of any Development Event entitling Collaborator to receive a specific Development Payment described in Section 3.4 will be conclusive evidence that Pfizer has satisfied all Pfizer Diligence Obligations under this Agreement up to the date that such Development Event is achieved, as determined on a Target-by-Target basis.

**5.2.5. Assertion of Pfizer Diligence Obligation Claims**. If Collaborator is, becomes or reasonably should be aware of facts that might form a reasonable basis to allege that Pfizer has failed to meet any of its obligations under Section 5.2.1 or Section 5.2.2, then Collaborator will promptly notify Pfizer in writing of such potential alleged performance failure (each such potential alleged performance failure, a "Diligence Issue"). Promptly upon Pfizer's receipt of any notice of a Diligence Issue pursuant to this Section 5.2.5, the Pfizer Alliance Manager will contact the Collaborator Alliance Manager to discuss the specific nature of such Diligence Issue and seek to identify an appropriate corrective course of action. If, no later than 30 days after Pfizer's receipt of such a notice, (a) the Parties have not reached consensus regarding whether Pfizer has failed to satisfy its obligations pursuant to Section 5.2.1 or Section 5.2.2 and (b) the Parties' respective Alliance Managers have not agreed upon an appropriate corrective course of action for such Diligence Issue, then such Diligence Issue will be escalated and resolved pursuant to the dispute resolution provisions set forth in Section 11.11. If Collaborator fails to notify Pfizer of a Diligence Issue pursuant to this Section 5.2.5 within 90 days after the date that Collaborator first discovers or based on the information provided by Pfizer, reasonably should have discovered such Diligence Issue, then Pfizer will be deemed to have satisfied its obligations under Section 5.2.1 and Section 5.2.2 with respect to such Diligence Issue.

**5.2.6. Remedies for Breach of Pfizer Diligence Obligations**. If Pfizer materially breaches any Pfizer Diligence Obligation and fails to remedy such breach within 90 days of Pfizer's receipt of notice of such breach from Collaborator, then Collaborator may, in its sole discretion, elect to terminate this Agreement pursuant to the provisions of Section 9.7.1(a) on a Product-by-Product and country-by-country basis, but only to the extent that a Product in a given country in the Territory is directly and adversely impacted by such uncured material breach.

**5.3. Regulatory Approvals**. Pfizer or its designated Affiliate(s) shall have the sole authority to file applications for Regulatory Approval for Products, including communicating with any Regulatory Authority both prior to and following Regulatory Approval.

**5.4. Commercialization Activities**. Pfizer shall have sole and exclusive control over all matters relating to the Commercialization of Products, including sole and exclusive control over (a) pricing of Products and (b) the negotiation of Product pricing with Regulatory Authorities and other Third Parties.

**5.5. Manufacturing**. Pfizer shall have the exclusive right to Manufacture Products itself or through one or more Affiliates or Third Parties selected by Pfizer in its sole discretion. For clarity, Pfizer shall have no diligence obligations with respect to the Manufacture of Products except to the extent necessary to fulfill its obligations under Section 5.2.1 or Section 5.2.2.

**5.6. Progress Reporting**. Pfizer shall, within thirty (30) days of a written request from Collaborator, provide Collaborator with annual written reports summarizing Pfizer's activities to Develop and Commercialize Products. Any information or written report provided by Pfizer to Collaborator pursuant to this Section 5.6 shall be deemed to be Pfizer's Confidential Information and subject to the provisions of Section 7.

**5.7. Other Pfizer Programs**. Collaborator understands and acknowledges that Pfizer may have present or future initiatives or opportunities, including initiatives or opportunities with its Affiliates or Third Parties, involving products, programs, technologies or processes that are similar to, and in some instances may compete with a Product covered by this Agreement. Collaborator acknowledges and agrees that nothing in this Agreement will be construed as a representation, warranty, covenant or inference that Pfizer will not itself Develop, Manufacture or Commercialize or enter into business relationships with one or more of its Affiliates or Third Parties to Develop, Manufacture or Commercialize products, programs, technologies or processes that are similar to or that may compete with any product, program, technology or process covered by this Agreement, *provided that*, for clarity, Pfizer will not use Collaborator's Confidential Information in breach of this Agreement.

## 6. INTELLECTUAL PROPERTY.

**6.1. Ownership of Intellectual Property**.

**6.1.1. Ownership of Inventions**. Except as otherwise expressly set forth in this Agreement, each Party shall own all right, title and interest in and to: (a) any and all Know-How, Antibodies and Products made solely by or on behalf of such Party or its Representatives in connection with their activities under this Agreement and (b) any and all Patent Rights claiming any such Know-How, Antibodies or Products described in clause (a) of this Section 6.1.1. Inventorship shall be determined in accordance with United States patent laws.

**6.1.2. Ownership of Sponsored Research Technology**. Notwithstanding any provision of Section 6.1.1 to the contrary and subject to Section 6.1.3, Pfizer shall own all right, title and interest in and to: (a) any and all Know-How, Antibodies and Products, whether or not patentable, made solely by or on behalf of Collaborator or its Representatives in connection with the Research Program or made jointly by or on behalf of (i) Collaborator or its Representatives and (ii) Pfizer or its Representatives in connection with the Research Program ("Sponsored Research Know-How") and (b) any and all Patent Rights claiming or disclosing any invention included in Sponsored Research Know-How ("Sponsored Research Patent Rights"). Collaborator agrees to assign and hereby perpetually and irrevocably assigns and agrees to assign, and shall cause its Representatives to assign, to Pfizer all right, title and interest throughout the world in and to any and all Sponsored Research Technology. Further, Collaborator shall, and shall cause its Representatives to, execute any and all assignments, applications for domestic and foreign patents and other documents and to do such other acts (including the execution and delivery of instruments of further assurance or confirmation) reasonably requested by Pfizer to assign the Sponsored Research Technology to Pfizer and to permit Pfizer to practice and enforce the Sponsored Research Technology.

**6.1.3. Ownership of Collaborator Platform and Collaborator Platform Technology**. Collaborator shall own all right, title and interest in and to the Collaborator Platform and all Collaborator Platform Technology. Collaborator will use its Collaborator Platform to generate Antibodies for Pfizer. In the course of conducting this work, Collaborator may develop enhancements or improvements to its own Collaborator Platform that are generally applicable to the Collaborator Platform. Collaborator will own such enhancements or improvements. During collaborative work conducted between Collaborator and Pfizer, Pfizer may provide know-how or information that generally improves Collaborator Platform. Collaborator may use such enhancements or improvements to further develop its Collaborator Platform and with its other collaborators provided that Collaborator may not provide information or know how to its other collaborators that is related to the Pfizer Target or Antibodies.

**6.2. Patent Rights**.

**6.2.1. Filing, Prosecution and Maintenance of Patent Rights**.

(a) *Collaborator Patent Rights*. Collaborator shall prepare, file, prosecute and maintain any Collaborator Patent Rights in all countries requested by Pfizer (the "Designated Countries"). For purposes of this section 6.2 Collaborator Patent Rights do not include Collaborator Platform Patent Rights. Collaborator shall keep Pfizer advised on the status of the preparation, filing, prosecution, and maintenance of all patent applications included within the Collaborator Patent Rights and the maintenance of any issued patents included within the Collaborator Patent Rights. Further, Collaborator shall consult and reasonably cooperate with Pfizer with respect to the preparation, filing, prosecution and maintenance of all Collaborator Patent Rights, including: (i) allowing Pfizer a reasonable opportunity and reasonable time to review and comment regarding relevant communications to Collaborator and drafts of any responses or other proposed filings by Collaborator before any applicable filings are submitted to any relevant patent office or Governmental Authority and (ii) reflecting any reasonable comments offered by Pfizer in any final filings submitted by Collaborator to any relevant patent office or Governmental Authority. Pfizer shall promptly (within 45 days of receipt of invoice) reimburse Collaborator for all out of pocket fees and expenses incurred as a result of Collaborator's obligations with respect to such Designated Countries as set forth in this Section 6.2.1. If Collaborator elects not to file a patent application included in the Collaborator Patent Rights in any Designated Country or elects to cease the prosecution or maintenance of any Collaborator Patent Right in any Designated Country, Collaborator shall provide Pfizer with written notice immediately, but not less than **30** days before any action is required, upon the decision to not file or continue the prosecution of such patent application or maintenance of such patent. In such event, Collaborator shall permit Pfizer, in Pfizer's sole discretion, to file or continue prosecution or maintenance of any such Collaborator Patent Right in such country on Collaborator's behalf and at Pfizer's expense. If Pfizer elects to continue such prosecution or maintenance, (A) Collaborator shall execute such documents and perform such acts, at Pfizer's expense, as may be reasonably necessary to assign to Pfizer all right, title and interest in and to such Collaborator Patent Right in such country, (B) such Patent Right shall no longer be a Collaborator Patent Right, and (C) any revenues generated by the sale of any Product claimed by such Collaborator Patent Right in such country shall not be included in the calculation of Net Sales for any purpose. Pfizer's rights under this Section 6.2.1(a) shall be in addition to any other rights and remedies which Pfizer may have as a result of Collaborator's failure to satisfy its obligations hereunder.

(b) *Pfizer Patent Rights and Sponsored Research Patent Rights*. Pfizer shall have the sole right, but no obligation, to file, prosecute and maintain the Patent Rights that it owns or to which it otherwise has Control of prosecution rights, including the Pfizer Patent Rights and Sponsored Research Patent Rights in its sole discretion.

**6.2.2. Enforcement and Defense of Patent Rights**.

(a) *Enforcement of Collaborator Patent Rights*. Each Party will promptly notify the other in the event of any actual, potential or suspected infringement of a patent under the Collaborator Patent Rights by any Third Party. As between Pfizer and Collaborator, Pfizer shall have the first right, except as otherwise provided in this Section 6.2.2, but not the obligation, to institute litigation or take other steps to remedy infringement in connection therewith, and any such litigation or steps shall be at Pfizer's expense, subject to Collaborator's obligation to indemnify Pfizer for such expenses pursuant to Section 10; *provided that* any recoveries resulting from such litigation or steps relating to a claim of Third Party infringement, after deducting Pfizer's out of pocket expenses (including counsel fees and expenses) in pursuing such claim, will be deemed Net Sales. Pfizer shall not, without the prior written consent of Collaborator, enter into any compromise or settlement relating to such litigation that (i) admits the invalidity or unenforceability of any Collaborator Patent Right or (ii) requires Pfizer to abandon any Collaborator Patent Right. In order to establish standing, Collaborator, upon request of Pfizer, agrees to timely commence or to join in any such litigation, at Pfizer's expense, and in any event to cooperate with Pfizer in such litigation or steps at Pfizer's expense. Collaborator will have the right to consult with Pfizer about such litigation and to participate in and be represented by independent counsel in such litigation at Collaborator's own expense. If Pfizer fails to institute such litigation or otherwise take steps to remedy the infringement of a Collaborator Patent Right within 120 days of its receipt of notice thereof in the case of a Collaborator Patent Right, then Collaborator shall have the right, but not the obligation, upon 20 days' prior notice to Pfizer, at Collaborator's expense, to institute any such litigation; *provided further that* any recoveries resulting from such litigation or steps relating to a claim of Third Party infringement, will belong to Collaborator. Pfizer shall have no obligation to cooperate with Collaborator in any such litigation. Neither Party shall incur any liability to the other Party as a consequence of any litigation initiated or pursued pursuant to this Section 6.2.2(a) or any unfavorable decision resulting therefrom, including any decision holding any Collaborator Patent Right invalid or unenforceable.

(b) *Enforcement of Pfizer Patent Rights and Sponsored Research Patent Rights*. Pfizer shall have the sole right, but no obligation, to take action to obtain a discontinuance of infringement or bring suit against a Third Party infringing or challenging the validity or enforceability of any Pfizer Patent Right or any Sponsored Research Patent Right.

**6.2.3. Allegations of Infringement and Right to Seek Third Party Licenses**.

(a) *Notice*. If the Development, Manufacture, Commercialization or use of any Antibody or Product, the practice of any Collaborator Technology, or the exercise of any other right granted by Collaborator to Pfizer hereunder (collectively, the "Licensed Activities") by Pfizer or any of its Affiliates or Sublicensees is alleged by a Third Party to infringe, misappropriate or otherwise violate such Third Party's Patent Rights or other intellectual property rights, Collaborator shall, promptly upon becoming aware of such allegation, notify Pfizer in writing. Additionally, if Collaborator determines that, based upon the review of any Third Party Patent Right or other Third Party intellectual property rights, it may be desirable to obtain a license from such Third Party with respect thereto so as to avoid any potential claim of infringement by such Third Party against either Party or their respective Affiliates or Sublicensees, then Collaborator shall promptly notify Pfizer of such determination.

(b) *Pfizer Option to Negotiate*. If Pfizer determines, in its sole discretion, that, in order for Pfizer, its Affiliates or Sublicensees to engage in the Licensed Activities, it is necessary or desirable to obtain a license under one or more Patent Rights or other intellectual property rights Controlled by a Third Party (collectively, "Third Party IP Rights"), then Pfizer shall have the sole right, but not the obligation, to negotiate and enter into a license or other agreement with such Third Party. All amounts payable under any such license or agreement with a Third Party shall reduce Pfizer's royalty obligations under this Agreement as and to the extent provided in Section 3.6.3(a).

**6.2.4. Third Party Infringement Suits**. Each of the Parties shall promptly notify the other in the event that any Third Party files any suit or brings any other action alleging patent infringement by Pfizer or Collaborator or any of their respective Affiliates or Sublicensees with respect to the Development, Manufacture, Commercialization or use of any Antibody or Product or the practice of any Collaborator Technology (any such suit or other action referred to herein as an "Infringement Claim"). In the case of any Infringement Claim against Pfizer (including its Affiliates or Sublicensees) alone or against both Pfizer and Collaborator (including its Affiliates), Pfizer shall have the right, but not the obligation, to control the defense of such Infringement Claim, including control over any related litigation, settlement, appeal or other disposition arising in connection therewith. Collaborator, upon request of Pfizer, agrees to join in any litigation associated with any Infringement Claim at Pfizer's expense and in any event to cooperate with Pfizer at Pfizer's expense. Collaborator will have the right to consult with Pfizer concerning any Infringement Claim and to participate in and be represented by independent counsel in any associated litigation in which Collaborator is a party at Collaborator's own expense. If Pfizer elects to control the defense of any Infringement Claim and Collaborator is obligated under Section 10.3 to indemnify Pfizer (including any Pfizer Indemnified Party) with respect to such Infringement Claim, then (a) Pfizer will bear 50% of its own attorneys' fees incurred in investigating, preparing or defending such Infringement Claim notwithstanding the provisions of Section 10.3 and (b) Collaborator will otherwise indemnify Pfizer and any applicable Pfizer Indemnified Parties to the full extent provided for under Section 10.3. In the case of any Infringement Claim against Collaborator alone, Pfizer shall have the right to consult with Collaborator concerning such Infringement Claim and Pfizer, upon request of Collaborator, will reasonably cooperate with Collaborator at Collaborator's expense (but Pfizer shall have no obligation to join any Infringement Claim or associated litigation).

**6.2.5. Other Actions by Third Parties**. Each Party shall promptly notify the other Party in the event of any legal or administrative action by any Third Party involving any Collaborator Patent Right of which it becomes aware, including any nullity, revocation, interference, reexamination or compulsory license proceeding. Pfizer shall have the first right, but no obligation, to defend against any such action involving any Collaborator Patent Right, in its own name (to the extent permitted by applicable Law), and any such defense shall be at Pfizer's expense, subject to Collaborator's indemnification obligations under Section 10. Collaborator, upon Pfizer's request, agrees to join in any such action at Pfizer's expense and in any event to cooperate with Pfizer at Pfizer's expense. If Pfizer fails to defend against any such action involving a Collaborator Patent Right, then Collaborator shall have the right to defend such action, in its own name, and any such defense shall be at Collaborator's expense. In such event, Pfizer, upon Collaborator's request, shall reasonably cooperate with Collaborator in any such action at Collaborator's expense.

**6.2.6. Orange Book Type Information**. Pfizer shall be responsible for all submissions of patent information pertaining to each Product pursuant to 21 U.S.C. § 355(b)(1)(G) (or any amendment or successor statute thereto), the Biologics Price Competition and Innovation Act of 2009, or any similar statutory or regulatory requirement in any non-United States country or other regulatory jurisdiction

**6.2.7. Biosimilar Applications**. Each Party shall immediately give written notice to the other of any notice received from a Third Party of an application for FDA approval under the Biologics Price Competition and Innovation Act of 2009 (or any amendment or successor statute thereto) of a biosimilar (including any Biosimilar Version) referencing a Product or any certification under a similar statutory or regulatory requirement in any non-United States country in the Territory claiming that a Collaborator Patent Right or Sponsored Research Patent Right covering any Product is invalid or that infringement will not arise from the Development, Manufacture or Commercialization of a proposed biosimilar (including any Biosimilar Version) by a Third Party. Upon the giving or receipt of such notice, Pfizer shall have the first right (or the sole right, in the case of a Sponsored Research Patent Right) but not the obligation, to bring an infringement action against such Third Party in connection with such certification. In the case of a Collaborator Patent Right, Pfizer shall notify Collaborator at least ten (10) days prior to the date set forth by statute or regulation of its intent to exercise, or not exercise, this right. Any infringement action against a Third Party arising under this Section *shall* be governed by the provisions of Section 6.2.2.

**6.2.8. Patent Term Restoration and Extension**. Pfizer shall have the exclusive right, but not the obligation, to seek, in Collaborator's name if so required, patent term extensions, and supplemental protection certificates and the like available under Law, including 35 U.S.C. § 156 and applicable foreign counterparts, in any country in the Territory in relation to the Collaborator Patent Rights. Collaborator and Pfizer shall cooperate in connection with all such activities. Pfizer, its agents and attorneys will give due consideration to all suggestions and comments of Collaborator regarding any such activities, but in the event of a disagreement between the Parties, Pfizer will have the final decision-making authority; provided, however, that Pfizer shall seek (or allow Collaborator to seek) to extend any Collaborator Patent Right at Collaborator's request, including through the use of supplemental protection certificates and the like, unless in Pfizer's reasonable legal determination such Collaborator Patent Right may not be extended under Law without limiting Pfizer's right to extend any other Patent Right.

**6.3. Recording**. If Pfizer deems it necessary or desirable to register or record this Agreement or evidence of this Agreement with any patent office or other appropriate Governmental Authority(ies) in one or more jurisdictions in the Territory, Collaborator shall reasonably cooperate to execute and deliver to Pfizer any documents accurately reflecting or evidencing this Agreement that are necessary or desirable, in Pfizer's reasonable judgment, to complete such registration or recordation. Pfizer shall reimburse Collaborator for all reasonable out-of-pocket expenses, including attorneys' fees, incurred by Collaborator in complying with the provisions of this Section.

**7. CONFIDENTIALITY.**

**7.1. Confidentiality**. Except to the extent expressly authorized by this Agreement, the Parties agree that, during the Term and for five years thereafter, each Party (the "Receiving Party") receiving any Confidential Information of the other Party (the "Disclosing Party") hereunder shall: (a) keep the Disclosing Party's Confidential Information confidential; (b) not disclose, or permit the disclosure of, the Disclosing Party's Confidential Information; and (c) not use, or permit to be used, the Disclosing Party's Confidential Information for any purpose other than as expressly permitted under the terms of this Agreement.

**7.2. Authorized Disclosure**.

**7.2.1. Disclosure to Party Representatives**. Notwithstanding the foregoing provisions of Section 7.1, the Receiving Party may disclose Confidential Information belonging to the Disclosing Party to the Receiving Party's Representatives who (a) have a need to know such Confidential Information in connection with the performance of the Receiving Party's obligations or the exercise of the Receiving Party's rights under this Agreement and (b) have agreed in writing to non-disclosure and non-use provisions with respect to such Confidential Information that are at least as restrictive as those set forth in this Section 7.

**7.2.2. Disclosure to Third Parties**. Notwithstanding the foregoing provisions of Section 7.1, each Party may disclose Confidential Information belonging to the other Party to the extent such disclosure is reasonably necessary:

(a) to Governmental Authorities (i) to the extent desirable to obtain or maintain INDs or Regulatory Approvals for any Antibody or Product within the Territory, and (ii) in order to respond to inquiries, requests or investigations relating to Antibodies, Products or this Agreement;

(b) to outside consultants, contractors, advisory boards, managed care organizations, and non-clinical and clinical investigators, in each case to the extent desirable to develop, register or market any Antibody or Product; provided that the Receiving Party shall obtain the same confidentiality obligations from such Third Parties as it obtains with respect to its own similar types of confidential information;

(c) in connection with filing or prosecuting Patent Rights or trademark rights as permitted by this Agreement,

(d) in connection with prosecuting or defending litigation as permitted by this Agreement;

(e) subject to the provisions of Section 7.5.2, in connection with or included in scientific presentations and publications relating to Antibodies or Products, including abstracts, posters, journal articles and the like, and posting results of and other information about clinical trials to clincialtrials.gov or PhRMA websites;

(f) to the extent necessary or desirable in order to enforce its rights under this Agreement; and

(g) to members of its board of directors, to its investors, and to bona fide prospective investors provided that the Receiving Party shall obtain the same confidentiality obligations from such Third Parties as it obtains with respect to its own similar types of confidential information outside.

If a Party deems it reasonably necessary to disclose Confidential Information belonging to the other Party pursuant to this Section 7.2.2, then the disclosing Party shall to the extent possible give reasonable advance written notice of such disclosure to the other Party and take such measures to ensure confidential treatment of such information as is reasonably required by the other Party, at the other Party's expense.

**7.3. SEC Filings and Other Disclosures**. Either Party may disclose the terms of this Agreement to the extent required, in the reasonable opinion of such Party's legal counsel, to comply with applicable Law, including the rules and regulations promulgated by the United States Securities and Exchange Commission or any equivalent governmental agency in any country in the Territory. Before disclosing this Agreement or any of the terms hereof pursuant to this Section 7.3, the Parties will consult with one another on the terms of this Agreement to be redacted in making any such disclosure, with the disclosing Party providing as much advanced notice as is feasible under the circumstances, and giving consideration to the comments of the other Party. Further, if a Party discloses this Agreement or any of the terms hereof in accordance with this Section 7.3, such Party shall, at its own expense, seek such confidential treatment of confidential portions of this Agreement and such other terms, as may be reasonably requested by the other Party.

**7.4. [Intentionally Omitted]**

**7.5. Public Announcements; Publications**.

**7.5.1. Announcements**. Except as may be expressly permitted under Section 7.3, neither Party will make any public announcement regarding this Agreement without the prior written approval of the other Party. For the sake of clarity, nothing in this Agreement shall prevent Pfizer from making any scientific publication or public announcement with respect to any Product under this Agreement; *provided, however*, that, except as permitted under Section 7.2, Pfizer shall not disclose any of Collaborator's Confidential Information in any such publication or announcement without obtaining Collaborator's prior written consent to do so. The Parties agree that Collaborator may release the announcement attached hereto as Schedule 7.5.1 regarding the signing of this Agreement following the Effective Date.

**7.5.2. Publications**. Each Party shall submit to the other Party (the "Non-Disclosing Party") for review and approval any proposed academic, scientific and medical publication or public presentation which contains the Non-Disclosing Party's Confidential Information. In addition, Collaborator shall submit to Pfizer for review and approval any proposed publication or public presentation relating to the Research Program. In both instances, such review and approval will be conducted for the purposes of preserving the value of the Collaborator Technology, the Pfizer Technology, the Sponsored Research Technology and the rights granted to Pfizer hereunder and determining whether any portion of the proposed publication or presentation containing the Non-Disclosing Party's Confidential Information should be modified or deleted. Written copies of such proposed publication shall be submitted to the Non-Disclosing Party no later than 60 days before submission for publication or presentation (the "Review Period"). The Non-Disclosing Party shall provide its comments with respect to such publications and presentations within 30 days of its receipt of such written copy. The Review Period may be extended for an additional 30 days in the event the Non-Disclosing Party can, within ten days of receipt of the written copy, demonstrate reasonable need for such extension including for the preparation and filing of patent applications. Collaborator and Pfizer will each comply with standard academic practice regarding authorship of scientific publications and recognition of contribution of other parties in any publication governed by this Section 7.5.2. For the sake of clarity, Pfizer's obligation to submit any publication to Collaborator for review and approval under this Section 7.5.2 shall not apply to any publication which does not contain Collaborator's Confidential Information.

**7.6. Obligations in Connection with Change of Control**. If Collaborator is subject to a Change of Control, Collaborator will, and it will cause its Representatives to, ensure that no Confidential Information of Pfizer is released to any Affiliate of Collaborator that becomes an Affiliate as a result of the Change of Control unless such Affiliate or its representatives of the Affiliate have signed individual confidentiality agreements which include equivalent obligations to those set out in this Section 7. If any Change of Control of Collaborator occurs, Collaborator shall promptly notify Pfizer, share with Pfizer the procedures it plans to implement in order to protect the confidentiality of Pfizer's Confidential Information prior to such implementation and make any adjustments to such procedures that are reasonably requested by Pfizer.

## 8. REPRESENTATIONS AND WARRANTIES.

**8.1. Mutual Representations and Warranties**. Each of Collaborator and Pfizer hereby represents and warrants to the other Party that:

**8.1.1.** it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization;

**8.1.2.** the execution, delivery and performance of this Agreement by such Party has been duly authorized by all requisite action under the provisions of its charter, bylaws and other organizational documents, and does not require any action or approval by any of its shareholders or other holders of its voting securities or voting interests;

**8.1.3.** it has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder

**8.1.4.** this Agreement has been duly executed and is a legal, valid and binding obligation on each Party, enforceable against such Party in accordance with its terms; and

**8.1.5.** the execution, delivery and performance by such Party of this Agreement and its compliance with the terms and provisions hereof does not and will not conflict with or result in a breach of or default under any binding obligation existing as of the Execution Date.

**8.2. Mutual Covenants**. Each of Collaborator and Pfizer hereby covenants to the other Party that, from the Execution Date until expiration or termination of this Agreement, it will perform its obligations under this Agreement in compliance with applicable Laws.

**8.3. Representations and Warranties of Collaborator**. Collaborator hereby represents and warrants to Pfizer that:

**8.3.1.** except as expressly disclosed in Schedule 8.3.1, Collaborator is the sole and exclusive owner of the Collaborator Technology and the Collaborator Platform Technology, all of which is free and clear of any claims, liens, charges or encumbrances;

**8.3.2.** it has and will have the full right, power and authority to grant all of the right, title and interest in the licenses and other rights granted or to be granted to Pfizer, Pfizer's Affiliates or Pfizer's Sublicensees under this Agreement;

**8.3.3.** as of the Execution Date (a) Exhibit B sets forth a true and complete list of any Patent Rights owned or otherwise Controlled by Collaborator or its Affiliates that relate to the Antibodies or Products, (b) each such Patent Right remains in full force and effect and (c) Collaborator or its Affiliates have timely paid all filing and renewal fees payable with respect to such Patent Rights;

**8.3.4.** as of the Execution Date, Collaborator has disclosed to Pfizer all material scientific and technical information and all information relating to safety and efficacy known to it or its Affiliates with respect to the Antibodies and Products;

**8.3.5.** it has complied with all applicable Laws, including any disclosure requirements, in connection with the filing, prosecution and maintenance of the Collaborator Patent Rights and Collaborator Platform Patent Rights;

**8.3.6.** except as expressly disclosed in Schedule 8.3.6, Collaborator has independently developed all Collaborator Know-How and Collaborator Platform Know-How or otherwise has a valid right to use all Collaborator Know-How and Collaborator Platform Know-How, and to permit Pfizer, Pfizer's Affiliates and Pfizer's Sublicensees to use, the Collaborator Know-How for all permitted purposes under this Agreement;

**8.3.7.** no Collaborator Technology existing as of the Effective Date is subject to any funding agreement with any government or Governmental Authority;

**8.3.8.** except as expressly disclosed in Schedule 8.3.8, neither Collaborator nor any of its Affiliates are party to or otherwise subject to any agreement or arrangement which limits the ownership or licensed rights of Pfizer or its Affiliates with respect to, or limits the ability of Pfizer or its Affiliates to grant a license, sublicense or access, or provide or provide access or other rights in, to or under, any intellectual property right or material (including any Patent Right, Know-How or other data or information), in each case, that would, but for such agreement or arrangement, be included in the rights licensed or assigned to Pfizer or its Affiliates pursuant to this Agreement;

**8.3.9.** (a) there are no Collaborator Third Party Agreements, other than the Collaborator Third Party Agreements expressly disclosed in Schedule 8.3.9 (each, a "Disclosed Third Party Agreement"), true and complete copies of which have been provided to Pfizer, (b) except as provided in the Disclosed Third Party Agreements, no Third Party has any right, title or interest in or-to, or any license under, any Collaborator Technology, (c) no rights granted by or to Collaborator or its Affiliates under any Disclosed Third Party Agreement conflict with any right or license granted to Pfizer or its Affiliates hereunder and (d) Collaborator and its Affiliates are in compliance in all material respects with all Disclosed Third Party Agreements;

**8.3.10.** there is no (a) claim, demand, suit, proceeding, arbitration, inquiry, investigation or other legal action of any nature, civil, criminal, regulatory or otherwise, pending or, to the best knowledge of Collaborator, threatened against Collaborator or any of its Affiliates or (b) judgment or settlement against or owed by Collaborator or any of its Affiliates, in each case in connection with the Collaborator Technology, any Antibody or any Product or relating to the transactions contemplated by this Agreement; and

**8.3.11.** to the best of its knowledge, the practice of the Collaborator Technology and the Collaborator Platform Technology to Develop any Antibody or Product does not infringe or misappropriate any issued patent or other proprietary right owned or possessed by any Third Party.

**8.4. Collaborator Covenants**. Collaborator hereby covenants to Pfizer that, from the Execution Date until expiration or termination of this Agreement:

**8.4.1.** it shall not, and shall cause its Affiliates not to license, sell, assign or otherwise transfer to any Person any Collaborator Technology, or incur any other obligation that is or would be inconsistent with the licenses and other rights granted to Pfizer under this Agreement;

**8.4.2.** it will not take any action that diminishes the rights under the Collaborator Technology, Sponsored Research Technology granted to Pfizer under this Agreement or fail to take any action that is reasonably necessary to avoid diminishing the rights under the Collaborator Technology or Sponsored Research Technology granted to Pfizer under this Agreement;

**8.4.3.** it will (a) not enter into any agreement that adversely affects the rights granted to Pfizer or Collaborator's ability to fully perform its obligations hereunder; (b) not amend or otherwise modify any Collaborator Third Party Agreement or consent or waive rights with respect thereto in any manner that (i) adversely affects the rights granted to Pfizer or (ii) Collaborator's ability to fully perform its obligations hereunder; (c) remain, and cause its Affiliates to remain, in compliance in all material respects with all Collaborator Third Party Agreements.

**8.4.4.** it will maintain valid and enforceable agreements with all Persons acting by or on behalf of Collaborator or its Affiliates under this Agreement which require such Persons to assign to Collaborator their entire right, title and interest in and to all Collaborator Technology and Sponsored Research Technology.

**8.5. Representation by Legal Counsel**. Each Party hereto represents that it has been represented by legal counsel in connection with this Agreement and acknowledges that it has participated in the drafting hereof In interpreting and applying the terms and provisions of this Agreement, the Parties agree that no presumption shall exist or be implied against the Party which drafted such terms and provisions.

**8.6. Disclaimer**. THE FOREGOING REPRESENTATIONS AND WARRANTIES OF EACH PARTY ARE IN LIEU OF ANY OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY SPECIFICALLY EXCLUDED AND DISCLAIMED.

## 9. GOVERNMENT APPROVALS; TERM AND TERMINATION.

**9.1. [Intentionally Omitted]**

**9.2. [Intentionally Omitted]**

**9.3. Government Approvals**. Each of Collaborator and Pfizer shall cooperate with the other Party and use Commercially Reasonable Efforts to make all registrations, filings and applications, and to obtain as soon as practicable all governmental or other consents or approvals necessary for the consummation of the transaction.

**9.4. Term**. The term of this Agreement (the "Term") will commence on the Effective Date and extend on a country-by-country basis (in the Territory), unless this Agreement is terminated earlier in accordance with this Section 9, until the last to expire of any Royalty Term for any Product in such country in the Territory.

**9.5. Termination by Collaborator**. Collaborator may terminate this Agreement for cause, at any time during the Term, by giving written notice to Pfizer in the event that Pfizer commits a material breach of its obligations under this Agreement and such material breach remains uncured for ninety days, measured from the date written notice of such material breach is given to Pfizer; provided, however, that if any breach is not reasonably curable within ninety days and if Pfizer is making a bona fide effort to cure such breach, such termination shall be delayed for up to an additional ninety days in order to permit Pfizer a reasonable period of time to cure such breach, and if not cured within such second ninety day period then this Agreement shall terminate at the end of such one hundred and eighty day period.

**9.6. Termination by Pfizer**.

**9.6.1. Termination for Convenience**. Upon at least 60 days written notice, to Collaborator, Pfizer may terminate this Agreement on a Target-by-Target or Product-by-Product and country-by-country basis, or in its entirety, without cause, for any or no reason.

**9.6.2. Termination for Cause**. Pfizer may terminate this Agreement for cause with respect to one or more Targets or Products in one or more countries in the Territory or may terminate this Agreement in its entirety, at any time during the Term, by giving written notice to Collaborator in the event that Collaborator commits a material breach of its obligations under this Agreement with respect to such Target or Product, and such material breach remains uncured for 90 days, measured from the date written notice of such material breach is given to Collaborator; *provided, however*, that if any breach is not reasonably curable within 90 days and if Collaborator is making a bona fide effort to cure such breach, such termination shall be delayed for a time period to be agreed by both Parties in order to permit Collaborator a reasonable period of time to cure such breach.

**9.7. Effects of Termination**.

**9.7.1. Effect of Termination**.

(a) *Termination for Cause by Collaborator; Termination for Convenience by Pfizer*. In the event that Collaborator terminates this Agreement for cause pursuant to Section 9.5 or Pfizer terminates this Agreement with respect to the entire Agreement, or to a specific Target without cause pursuant to Section 9.6.1, the following will apply:

(i) Except as otherwise expressly provided herein, all rights and obligations of each Party hereunder shall cease except non-exclusive research licenses granted in Section 3.2.

(ii) If Collaborator provides written notice to Pfizer within 90 days following the effective date of termination, the Parties will negotiate in good faith for a period not to exceed 90 days regarding:

(A) the transfer or grant of a license by Pfizer to Collaborator of Pfizer Technology necessary to allow Collaborator to continue to Develop, Commercialize and Manufacture any Antibody(ies) and Product(s) under Development or Commercialization by Pfizer under this Agreement at the time of termination, in the form in which such Product then exists (a "Continuation Product") including the payment by Collaborator of royalty for sales of the Product;

(B) the related transfer to Collaborator of development data and regulatory filings specifically relating to such Continuation Product or the granting to Collaborator of rights of reference with respect to such data and filings; and

(C) the provision by Pfizer to Collaborator of transitional supplies of such Continuation Product at a commercially reasonable supply price for a commercially reasonable period of time.

(iii) Neither Party will be obligated to enter into any transaction described in Section 9.7.1(a)(ii), and neither Party will have any liability to the other for failure to do so.

(iv) If the termination occurs prior to the completion of all of the Preclinical Milestone Events for a Target, and Collaborator is conducting work on such Target, within forty-five (45) days of receipt of invoice from Collaborator Pfizer will pay Collaborator the Preclinical Milestone Payment that corresponds to the next Preclinical Milestone Event.

(b) *Termination for Cause by Pfizer*.

(i) *Complete Termination*. In the event that Pfizer terminates this Agreement in its entirety pursuant to Section 9.6.2: (A) all licenses granted under this Agreement by Collaborator to Pfizer shall become fully paid-up, perpetual, and irrevocable; (B) Collaborator shall, for a period of 90 days following the effective date of termination, provide Pfizer with knowledge transfer assistance; (C) any amounts payable by Pfizer to Collaborator pursuant to Section 3 shall be reduced to [***] of the amount that would otherwise have been payable under the terms of the Agreement during its Term, and (D) except as otherwise expressly provided herein, all other rights and obligations of each Party with respect to all Products throughout the Territory shall cease.

**9.7.2. Accrued Rights**. Expiration or termination of this Agreement for any reason shall be without prejudice to any right which shall have accrued to the benefit of either Party prior to such termination, including damages arising from any breach under this Agreement. Expiration or termination of this Agreement shall not relieve either Party from any obligation which is expressly indicated to survive such expiration or termination.

**9.7.3. Survival Period**. The following sections, together with any sections that expressly survive (including any perpetual licenses granted hereunder), shall survive expiration or termination of this Agreement for any reason: Sections 1 (Definitions and Interpretation), 2.2 (Reciprocal Non-Exclusive Research License for Disclosed Know-How and Confidential Information), 2.3 (No Implied Rights), 3.4 (Development Payments), 3.5 (Sales Milestone Payments), 3.6 (Royalty Payments), 3.7.1 through 3.7.5 (to the extent any Product(s) are sold in the applicable time period), 3.7.6 (Record Keeping), 3.7.7 (Audits), 3.7.8 (Underpayments/Overpayments), 3.7.9 (Confidentiality), 3.9 (Non-Refundable), 3.10 (Past Due Amounts), 3.11 (Obligation to Make Payment), 4.7.2 (Permitted Use of Pfizer Materials), 4.7.3 (Unauthorized Use of Pfizer Materials), 4.7.4 (Title to Pfizer Materials), 4.7.5 (Return of Pfizer Materials), 4.7.6 (Ownership of Material Improvements), 6.1 (Ownership of Intellectual Property), 7 (Confidentiality), 9.7 (Effects of Termination), 9.8 (Provision for Insolvency), 10.1 (No Consequential Damages), 10.2 (Indemnification by Pfizer), 10.3 (Indemnification by Collaborator), 10.4 (Procedure), and 11 (Miscellaneous)

***Confidential Treatment Requested.**

**9.8. Provision for Insolvency**.

**9.8.1. Termination Right**. Collaborator shall be deemed a "Debtor" under this Agreement if, at any time during the Term (a) a case is commenced by or against Collaborator under the Bankruptcy Code, (b) Collaborator files for or is subject to the institution of bankruptcy, reorganization, liquidation or receivership proceedings (other than a case under the Bankruptcy Code), (c) Collaborator assigns all or a substantial portion of its assets for the benefit of creditors, (d) a receiver or custodian is appointed for Collaborator's business or (e) a substantial portion of Collaborator's business is subject to attachment or similar process; *provided, however*, that in the case of any involuntary case under the Bankruptcy Code, Collaborator shall not be deemed a Debtor if the case is dismissed within 60 days after the commencement thereof If Collaborator is deemed a Debtor, then Pfizer may terminate this Agreement by providing written notice to Collaborator.

If Pfizer terminates this Agreement pursuant this Section 9.8.1, then: (i) all licenses granted to Pfizer under this Agreement shall become irrevocable and perpetual, and Pfizer shall have no further obligations to Collaborator under this Agreement other than (A) those obligations that expressly survive termination in accordance with Section 9.7.3 and (B) an obligation to pay royalties with respect to Net Sales of Products in an amount equal to [***] of the amount that would otherwise have been payable under this Agreement, such amount to be paid in accordance with and subject to the other terms of this Agreement governing the payment of royalties; (ii) such termination shall not be construed to limit Collaborator's right to receive payments that accrued before the effective date of such termination; (iii) Pfizer shall have the right to offset, against any payment owing to Collaborator as provided for under clause (i), above, any damages agreed by the Parties to be owed by Collaborator to Pfizer; and (iv) Nothing in this Section 9.8.1 shall limit any other remedy Pfizer may have for any breach by Collaborator of this Agreement.

**9.8.2. Rights to Intellectual Property**. All rights and licenses now or hereafter granted by Collaborator to Pfizer under or pursuant to any Section of this Agreement, are rights to "intellectual property" (as defined in the Bankruptcy Code). The Parties acknowledge and agree that all of the payments provided for under Sections 3 and all other payments by Pfizer to Collaborator hereunder, other than royalty payments pursuant to Section 3.5 do not constitute royalties within the meaning of Section 365(n) of the Bankruptcy Code or relate to licenses of intellectual property hereunder. If (a) a case under the Bankruptcy Code is commenced by or against Collaborator, (b) this Agreement is rejected as provided in the Bankruptcy Code and (c) Pfizer elects to retain its rights hereunder as provided in Section 365(n) of the Bankruptcy Code, then Collaborator (in any capacity, including debtor-in-possession) and its successors and assigns (including any trustee) shall provide to Pfizer all intellectual property licensed hereunder, and agrees to grant and hereby grants to Pfizer and its Affiliates a right to access and to obtain possession of and to benefit from and, in the case of any chemical or biological material or other tangible item of which there is a fixed or limited quantity, to obtain a pro rata portion of, each of the following to the extent related to any Antibody or Product, or otherwise related to any right or license granted under or pursuant to this Agreement: (i) copies of pre-clinical and clinical research data and results; (ii) all of the following (to the extent that any of the following are so related): cell lines, antibodies, assays, reagents and other biological materials; (iii) Product samples; (v) laboratory notes and notebooks; (vi) Product data or filings, and (vii) rights of reference in respect of regulatory filings and approvals, all of which constitute "embodiments" of intellectual property pursuant to Section 365(n) of the Bankruptcy Code, and (viii) all other embodiments of such intellectual property, whether any of the foregoing are in Collaborator's possession or control or in the possession and control of any Third Party but which Collaborator has the right to access or benefit from and to make available to Pfizer; provided, however, that none of the foregoing shall include rights to the Collaborator Platform or Collaborator Platform Technology except as expressly licensed under this Agreement.

***Confidential Treatment Requested.**

Collaborator shall not interfere with the exercise by Pfizer or its Affiliates of rights and licenses to intellectual property licensed hereunder and embodiments thereof in accordance with this Agreement and agrees to use Commercially Reasonable Efforts to assist Pfizer and its Affiliates to obtain such intellectual property and embodiments thereof in the possession or control of Third Parties as reasonably necessary or desirable for Pfizer or its Affiliates or Sublicensees to exercise such rights and licenses in accordance with this Agreement.

**9.8.3. No Limitation of Rights**. All rights, powers and remedies of Pfizer provided in this Section 9.8 are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at Law or in equity (including the Bankruptcy Code) in the event of the commencement of a case under the Bankruptcy Code involving Collaborator.

## 10. LIMITATION ON LIABILITY, INDEMNIFICATION AND INSURANCE.

**10.1. No Consequential Damages**. Except with respect to liability arising from a breach of Section 6 or 7, from any willful misconduct or intentionally wrongful act, or to the extent such Party may be required to indemnify the other Party under this Section 10, in no event will either Party or its Representatives be liable under this Agreement for any special, indirect, incidental, consequential or punitive damages, whether in contract, warranty, tort, negligence, strict liability or otherwise, including loss of profits or revenue suffered by either Party or any of its Representatives. Without limiting the generality of the foregoing, "consequential damages" will be deemed to include, and neither Party will be liable to the other Party or any of such other Party's Representatives or stockholders for any damages based on or measured by loss of projected or speculative future sales of the Products, any Development Payment due upon any unachieved Development Event under Section 3.4, any Sales Milestone Payment due upon any unachieved Total Annual Net Sales level under Section 3.5, any unearned royalties under Section 3.6 or any other unearned, speculative or otherwise contingent payments provided for in this Agreement.

**10.2. Indemnification by Pfizer**. Pfizer will indemnify, defend and hold harmless Collaborator, each of its Affiliates, and each of its and its Affiliates' employees, officers, directors and agents (each, a "Collaborator Indemnified Party") from and against any and all liability, loss, damage, expense (including reasonable attorneys' fees and expenses) and cost (collectively, a "Liability") that the Collaborator Indemnified Party may be required to pay to one or more Third Parties resulting from or arising out of:

(a) Development, Manufacture, Commercialization or use of any Product by, on behalf of, or under the authority of, Pfizer (other than by any Collaborator Indemnified Party), other than (i) claims by Third Parties relating to patent infringement arising out of the exercise of rights under the Collaborator Patent Rights, (ii) claims by Third Parties relating misappropriation of trade secrets arising out of the exercise of rights under the Collaborator Know-How, or (iii) claims for which Collaborator is required to indemnify Pfizer pursuant to Section 10.3; or

(b) the material breach by Pfizer of any of its representations, warranties or covenants set forth in Section 8.1;

except, in each case, to the extent caused by the negligence, recklessness or intentional acts of Collaborator or any Collaborator Indemnified Party.

**10.3. Indemnification by Collaborator**. Collaborator will indemnify, defend and hold harmless Pfizer, its Affiliates, Sublicensees, contractors, distributors and each of its and their respective employees, officers, directors and agents (each, a "Pfizer Indemnified Party") from and against any and all Liabilities that the Pfizer Indemnified Party may be required to pay to one or more Third Parties resulting from or arising out of the material breach by Collaborator of any of its representations, warranties or covenants set forth in Section 8.1, Section 8.2, Section 8.3 or Section 8.4 except to the extent caused by the negligence, recklessness or intentional acts of Pfizer or any Pfizer Indemnified Party.

**10.4. Procedure**.

**10.4.1. Notice**. Each Party will notify the other Party in writing in the event it becomes aware of a claim for which indemnification may be sought hereunder. In the event that any Third Party asserts a claim or other proceeding (including any governmental investigation) with respect to any matter for which a Party (the "Indemnified Party") is entitled to indemnification hereunder (a "Third Party Claim"), then the Indemnified Party shall promptly notify the Party obligated to indemnify the Indemnified Party (the "Indemnifying Party") thereof; *provided*, *however*, that no delay on the part of the Indemnified Party in notifying the Indemnifying Party shall relieve the Indemnifying Party from any obligation hereunder unless (and then only to the extent that) the Indemnifying Party is prejudiced thereby.

**10.4.2. Control**. Subject to Pfizer's right to control any actions described in Sections 6.2.2, 6.2.3, or 6.2.4. (even where Collaborator is the Indemnifying Party), the Indemnifying Party shall have the right, exercisable by notice to the Indemnified Party within ten Business Days after receipt of notice from the Indemnified Party of the commencement of or assertion of any Third Party Claim, to assume direction and control of the defense, litigation, settlement, appeal or other disposition of the Third Party Claim (including the right to settle the claim solely for monetary consideration) with counsel selected by the Indemnifying Party and reasonably acceptable to the Indemnified Party; provided that (a) the Indemnifying Party has sufficient financial resources, in the reasonable judgment of the Indemnified Party, to satisfy the amount of any adverse monetary judgment that is sought, (b) the Third Party Claim seeks solely monetary damages and (c) the Indemnifying Party expressly agrees in writing that as between the Indemnifying Party and the Indemnified Party, the Indemnifying Party shall be solely obligated to satisfy and discharge the Third Party Claim in full (the conditions set forth in clauses (a), (b) and (c) above are collectively referred to as the "Litigation Conditions"). Within ten Business Days after the Indemnifying Party has given notice to the Indemnified Party of its exercise of its right to defend a Third Party Claim, the Indemnified Party shall give notice to the Indemnifying Party of any objection thereto based upon the Litigation Conditions. If the Indemnified Party reasonably so objects, the Indemnified Party shall continue to defend the Third Party Claim, at the expense of the Indemnifying Party, until such time as such objection is withdrawn. If no such notice is given, or if any such objection is withdrawn, the Indemnifying Party shall be entitled, at its sole cost and expense, to assume direction and control of such defense, with counsel selected by the Indemnifying Party and reasonably acceptable to the Indemnified Party. During such time as the Indemnifying Party is controlling the defense of such Third Party Claim, the Indemnified Party shall cooperate, and shall cause its Affiliates and agents to cooperate upon request of the Indemnifying Party, in the defense or prosecution of the Third Party Claim, including by furnishing such records, information and testimony and attending such conferences, discovery proceedings, hearings, trials or appeals as may reasonably be requested by the Indemnifying Party. In the event that the Indemnifying Party does not satisfy the Litigation Conditions or does not notify the Indemnified Party of the Indemnifying Party's intent to defend any Third Party Claim within ten Business Days after notice thereof; the Indemnified Party may (without further notice to the Indemnifying Party) undertake the defense thereof with counsel of its choice and at the Indemnifying Party's expense (including reasonable, out-of-pocket attorneys' fees and costs and expenses of enforcement or defense). The Indemnifying Party or the Indemnified Party, as the case may be, shall have the right to join in (including the right to conduct discovery, interview and examine witnesses and participate in all settlement conferences), but not control, at its own expense, the defense, of any Third Party Claim that the other party is defending as provided in this Agreement.

**10.4.3. Settlement**. The Indemnifying Party shall not, without the prior written consent of the Indemnified Party, enter into any compromise or settlement that commits the Indemnified Party to take, or to forbear to take, any action. The Indemnified Party shall have the sole and exclusive right to settle any Third Party Claim, on such terms and conditions as it deems reasonably appropriate, to the extent such Third Party Claim involves equitable or other non-monetary relief, but shall not have the right to settle such Third Party Claim to the extent such Third Party Claim involves monetary damages without the prior written consent of the Indemnifying Party. Each of the Indemnifying Party and the Indemnified Party shall not make any admission of liability in respect of any Third Party Claim without the prior written consent of the other party, and the Indemnified Party shall use reasonable efforts to mitigate Liabilities arising from such Third Party Claim.

**10.5. Insurance**. Each Party further agrees to obtain and maintain, during the Term, commercial general liability insurance, including products liability insurance (which products liability insurance will be effective as of the commencement of the first Phase I Clinical Trial for a Product), with reputable and financially secure insurance carriers (or pursuant to a program of self-insurance reasonably satisfactory to the other Party) to cover its indemnification obligations under Section 10.2 or Section 10.3, as applicable, in each case with limits of not less than [***] per occurrence and in the aggregate. Insurance shall be procured with carriers having an A.M. Best Rating of A-VII or better.

## 11. MISCELLANEOUS.

**11.1. Assignment**. Neither this Agreement nor any interest hereunder shall be assignable by a Party without the prior written consent of the other Party, except as follows: (a) a Party may assign its rights and obligations under this Agreement by way of sale of itself or the sale of the portion of its business to which this Agreement relates, through merger, sale of assets and/or sale of stock or ownership interest, or (b) such Party may assign its rights and obligations under this Agreement to any of its Affiliates, *provided that* such Party shall remain liable for all of its rights and obligations under this Agreement. In addition, Pfizer may assign its rights and obligations under this Agreement to a Third Party where Pfizer or its Affiliate is required, or makes a good faith determination based on advice of counsel, to divest a Product in order to comply with Law or the order of any Governmental Authority as a result of a merger or acquisition. Each Party shall promptly notify the other Party of any assignment or transfer under the provisions of this Section 11.1. This Agreement shall be binding upon the successors and permitted assigns of the Parties. Any assignment not in accordance with this Section 11.1 shall be void.

**11.2. Change of Control of Collaborator**. Collaborator shall notify Pfizer in writing promptly following the entering into of a definitive agreement with respect to a Change of Control of Collaborator.

***Confidential Treatment Requested.**

**11.3. Further Actions**. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of the Agreement.

**11.4. Force Majeure**. Each Party shall be excused from the performance of its obligations under this Agreement to the extent that such performance is prevented by force majeure (defined below) and the nonperforming Party promptly provides notice of the prevention to the other Party. Such excuse shall be continued so long as the condition constituting force majeure continues and the nonperforming Party takes Commercially Reasonable Efforts to remove the condition. For purposes of this Agreement, "force majeure" shall include conditions beyond the control of the Parties, including an act of God, voluntary or involuntary compliance with any regulation, Law or order of any government, war, act of terror, civil commotion, labor strike or lock-out, epidemic, failure or default of public utilities or common carriers, destruction of production facilities or materials by fire, earthquake, storm or like catastrophe.

**11.5. Notices**. Any notice or notification required or permitted to be provided pursuant this Agreement shall be in writing and shall be deemed given upon receipt if delivered by overnight delivery using a nationally recognized express courier service and specifying next Business Day delivery (receipt verified), to the Parties at the following addresses:

All correspondence to Pfizer shall be addressed as follows:

Pfizer Inc.
235 East 42nd Street
New York, New York 10017-5755

Attention: President, Worldwide Research and Development

Copy to: Associate General Counsel, Business Transactions

And

Stephen Murnaghan
Managing Director
CovX Technologies Ireland Limited
122 Ranelagh
Dublin 6
Ireland

All correspondence to Collaborator shall be addressed as follows:

TheracloneSciences, Inc.
1124 Columbia Street, Suite 300
Seattle, WA 98104, USA
Attention: Chief Financial Officer

with a copy to:

Beacon Law Advisors, PLLC
801 2nd Ave., Suite 614
Seattle, WA 98104, USA

Attention: Noel Howe

**11.6. Amendment**. No amendment, modification or supplement of any provision of this Agreement shall be valid or effective unless made in writing and signed by a duly authorized officer of each Party.

**11.7. Waiver**. No provision of this Agreement shall be waived by any act, omission or knowledge of a Party or its agents or employees except by an instrument in writing expressly waiving such provision and signed by a duly authorized officer of the waiving Party. The waiver by either of the Parties of any breach of any provision hereof by the other Party shall not be construed to be a waiver of any succeeding breach of such provision or a waiver of the provision itself.

**11.8. Severability**. If any clause or portion thereof in this Agreement is for any reason held to be invalid, illegal or unenforceable, the same shall not affect any other portion of this Agreement, as it is the intent of the Parties that this Agreement shall be construed in such fashion as to maintain its existence, validity and enforceability to the greatest extent possible. In any such event, this Agreement shall be construed as if such clause had never been contained in this Agreement, and there shall be deemed substituted a provision as will most nearly carry out the intent of the Parties as expressed in this Agreement to the fullest extent permitted by applicable Law.

**11.9. Descriptive Headings**. The descriptive headings of this Agreement are for convenience only and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement.

**11.10. Export Control**. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America or other countries which may be imposed upon or related to Collaborator or Pfizer from time to time. Each Party agrees that it will not export, directly or indirectly, any technical information acquired from the other Party under this Agreement or any products using such technical information to a location or in a manner that at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so from the appropriate agency or other governmental entity.

**11.11. Dispute Resolution**. If any dispute or disagreement arises between Pfizer and Collaborator in respect of this Agreement, the Pfizer Alliance Manager and the Collaborator Alliance Manager shall meet and use their reasonable endeavors to resolve the dispute. If the Alliance Managers are unable to resolve the dispute, then the Chief Scientific Officer and Vice President of Pfizer and the Chief Executive Officer of Collaborator shall meet for the purpose of resolving such dispute. If, within a further period of 30 days, or if in any event within 90 days of initial notice of dispute, then the Parties agree that either Party may initiate litigation to resolve the dispute.

Notwithstanding any provision of this Agreement to the contrary, either Party may immediately initiate litigation in any court of competent jurisdiction seeking any remedy at law or in equity, including the issuance of a preliminary, temporary or permanent injunction, to preserve or enforce its rights under this Agreement. The provisions of this Section 11.11 will survive for five years from the date of termination or expiration of this Agreement.

**11.12. Governing Law**. This Agreement, and all claims arising under or in connection therewith, shall be governed by and interpreted in accordance with the substantive laws of the State of New York, without regard to conflict of law principles thereof.

**11.13. Consent to Jurisdiction**. Each Party to this Agreement hereby (a) irrevocably submits to the exclusive jurisdiction of the state courts of the State of New York or the United States District Court for the Southern District of New York for the purpose of any and all actions, suits or proceedings arising in whole or in part out of, related to, based upon or in connection with this Agreement.

**11.14. Entire Agreement**. This Agreement constitutes and contains the complete, final and exclusive understanding and agreement of the Parties and cancels and supersedes any and all prior negotiations, correspondence, understandings and agreements, whether oral or written, between the Parties respecting the subject matter hereof and thereof, including that certain Non-Disclosure Agreement between the Parties dated April 7, 2010 which is hereby terminated effective as of the Execution Date, *provided that* such Non-Disclosure Agreement will continue to govern the treatment of Confidential Information disclosed by the Parties prior to the Execution Date in accordance with its terms.

**11.15. Independent Contractors**. Both Parties are independent contractors under this Agreement. ‘Nothing herein contained shall be deemed to create an employment, agency, joint venture or partnership relationship between the Parties hereto or any of their agents or employees, or any other legal arrangement that would impose liability upon one Party for the act or failure to act of the other Party. Neither Party shall have any express or implied power to enter into any contracts or commitments or to incur any liabilities in the name of, or on behalf of, the other Party, or to bind the other Party in any respect whatsoever.

**11.16. Counterparts**. This Agreement may be executed in three counterparts, each of which shall be an original and each of which shall constitute together the same document. Counterparts may be signed and delivered by facsimile or PDF file, each of which shall be binding when received by the applicable Party.

**11.17. No Third Party Rights or Obligations**. No provision of this Agreement shall be deemed or construed in any way to result in the creation of any rights or obligation in any Person not a Party to this Agreement. However, Pfizer may decide, in its sole discretion, to use one or more of its Affiliates to perform its obligations and duties hereunder, *provided that* Pfizer shall remain liable hereunder for the performance by any such Affiliates of any such obligations.

(*Signature page follows*.)

IN WITNESS WHEREOF, authorized representatives of the Parties have duly executed this Agreement as of the Execution Date to be effective as of the Effective Date.

**PFIZER INC.**

By /s/ Rodney Lappe
Name: Rodney Lappe
Title: Sr Vice-President, WRD

**THERACLONE SCIENCES, INC.**

By /s/ Steven Gillis
Name: Steven Gillis
Title: Chairman, Acting CEO

**COVX TECHNOLOGIES IRELAND LIMITED**

By /s/ Stephen Murnaghan
Name: Stephen Murnaghan
Title: Managing Director

**Exhibit A**

**Defined Terms**

"Affiliate" means, with respect to any Person, any other Person that controls, is controlled by or is under common control with such Person. (b) possesses, directly or indirectly, the power to direct or cause the direction of the management or policies of any such Person (whether through ownership of securities or other ownership interests, by contract or otherwise).

"Antibody" means any antibody that targets a Target and either (a) is delivered by Collaborator to Pfizer under the Research Plan and meets the specific criteria described in the Research Plan, or (b) is a fragment, variant, modification or derivative of any such antibody described in (a) that is created, made or discovered by or on behalf of Pfizer or its Affiliate or sublicensee.

"Bankruptcy Code" means Section 101(35A) of Title 11 of the United States Code, as amended.

"Biological License Application" or "BLA" means a Biological License Application, or an New Drug Application submitted to the FDA in the United States in accordance with the FD&C Act with respect to a biological products or any analogous application or submission with any Regulatory Authority outside of the United States.

"Calendar Quarter" means the respective periods of three consecutive calendar months ending on March 31, June 30, September 30 and December 31.

"Calendar Year" means any calendar year.

"Change of Control" means, with respect to a Party (a) the acquisition of beneficial ownership, directly or indirectly, by any Person of securities or other voting interest of such Party representing a majority or more of the combined voting power of such Party's then outstanding securities or other voting interests, (b) any merger, reorganization, consolidation or business combination involving such Party with a Third Party that results in the holders of beneficial ownership of the voting securities or other voting interests of such Party immediately prior to such merger, reorganization, consolidation or business combination ceasing to hold beneficial ownership of at least (50%) of the combined voting power of the surviving entity immediately after such merger, reorganization, consolidation or business combination, (c) any sale, lease, exchange, contribution or other transfer (in one transaction or a series of related transactions) of all or substantially all of the assets of such Party to which this Agreement relates, other than a sale or disposition of such assets to an Affiliate of such Party or (d) the approval of any plan or proposal for the liquidation or dissolution of such Party (other than in circumstances where such Party is deemed a Debtor pursuant to Section 9.8).

"Clinical Trial" means a human clinical study conducted on sufficient numbers of human subjects that is designed to (a) establish that a pharmaceutical product is reasonably safe for continued testing, (b) investigate the safety and efficacy of the pharmaceutical product for its intended use, and to define warnings, precautions and adverse reactions that may be associated with the pharmaceutical product in the dosage range to be prescribed or (c) support Regulatory Approval of such pharmaceutical product or label expansion of such pharmaceutical product. Without limiting the foregoing, Clinical Trial includes any Phase I Clinical Trial, Phase II Clinical Trial or Phase III Clinical Trial.

"Collaborator Know-How" means any Know-How that (a) is Controlled by Collaborator or any of its Affiliates as of the Effective Date or that comes into the Control of Collaborator or any of its Affiliates during the Term (other than through the grant of a license by Pfizer) and (b) relates to any Antibody or Product or to the Development, Manufacture, Commercialization or use of any of the foregoing.

"Collaborator Patent Right" means any Patent Right that (a) is Controlled by Collaborator or any of its Affiliates as of the Effective Date (including the Collaborator Patent Rights listed in Exhibit B or comes into the Control of Collaborator or any of its Affiliates during the Term (other than through the grant of a license by Pfizer) and (b) claims or discloses any (i) Antibody or Product (including the composition of matter thereof), (ii) method of making any Antibody or Product or materials used in any method of making any Antibody or Product, or (iii) methods of using any Antibody or Product.

"Collaborator Platform" means Collaborator's I-Star$^{tm}$ platform technology and antibody repertoire array for the discovery of antibodies.

"Collaborator Platform Know-How" means any Know-How that relates to the Collaborator Platform.

"Collaborator Platform Patent Right" means any Patent Right that claims or discloses the Collaborator Platform or any portion thereof, or methods of using the Collaborator Platform.

"Collaborator Platform Technology" means the Collaborator Platform Patent Rights and the Collaborator Platform Know-How.

"Collaborator Technology" means the Collaborator Patent Rights and Collaborator Know-How.

"Collaborator Third Party Agreement" means any agreement between Collaborator (or any of its Affiliates) and any Third Party that relates to any of the Collaborator Technology.

"Combination Product" means a Product containing an Antibody and one or more other therapeutically active ingredients.

"Commercialize" or "Commercializing" means to market, promote, distribute, offer for sale, sell, have sold, import, have imported, export, have exported or otherwise commercialize a compound or product. When used as a noun, "Commercialization" means any and all activities involved in Commercializing.

"Commercially Reasonable Efforts" means, with respect to the efforts to be expended by a Party with respect to any objective, those reasonable, good faith efforts to accomplish such objective as such Party would normally use to accomplish a similar objective under similar circumstances. With respect to any efforts relating to the Development, Regulatory Approval or Commercialization of a Antibody or Product by a Party, generally or with respect to any particular country in the Territory, a Party will be deemed to have exercised Commercially Reasonable Efforts if such Party has exercised those efforts normally used by such Party, in the relevant country, with respect to a compound, product or product candidate, as applicable (a) of similar modality Controlled by such Party, or (b) (i) to which such Party has similar rights, (ii) which is of similar market potential in such country, and (iii) which is at a similar stage in its development or product life cycle, as the Antibody or Product, in each case, taking into account all Relevant Factors in effect at the time such efforts are to be expended. Further, to the extent that the performance of a Party's obligations hereunder is adversely affected by the other Party's failure to perform its obligations hereunder, the impact of such performance failure will be taken into account in determining whether such Party has used its Commercially Reasonable Efforts to perform any such affected obligations.

“Confidential Information” means, with respect to each Party, all Know-How or other information, including proprietary information and materials (whether or not patentable) regarding or embodying such Party’s technology, products, business information or objectives, that is communicated by or on behalf of the Disclosing Party to the Receiving Party or its permitted recipients. Confidential Information does not include any Know-How or other information that (a) was already known by the Receiving Party (other than under an obligation of confidentiality to the Disclosing Party) at the time of disclosure by or on behalf of the Disclosing Party, (b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the Receiving Party, (c) became generally available to the public or otherwise part of the public domain after its disclosure to the Receiving Party, other than through any act or omission of the Receiving Party in breach of its obligations under this Agreement, (d) was disclosed to the Receiving Party, other than under an obligation of confidentiality, by a Third Party who had no obligation to the Disclosing Party not to disclose such information to the Receiving Party or (e) was independently discovered or developed by or on behalf of the Receiving Party without the use of any Confidential Information belonging to the Disclosing Party. The terms and conditions of this Agreement shall be considered Confidential Information of both Parties.

“Control” or “Controlled” means with respect to any intellectual property right or material (including any Patent Right, Know-How or other data, information or material), the ability (whether by sole, joint or other ownership interest, license or otherwise, other than pursuant to this Agreement) to, without violating the terms of any agreement with a Third Party, grant a license or sublicense or provide or provide access or other right in, to or under such intellectual property right or material.

“Develop” or “Developing” means to discover, research or otherwise develop a process, compound or product, including conducting non-clinical and clinical research and development activities. When used as a noun, “Development” means any and all activities involved in Developing.

“Development Event” means each Development event listed in the table that appears in Section 3.4.

“Effective Date” means the later of the Execution Date.

"FD&C Act" means the United States Federal Food, Drug, and Cosmetic Act, as amended; and the rules and regulations promulgated thereunder.

"FDA" means the United States Food and Drug Administration or any successor agency thereto and any analogous agency or Regulatory Authority outside of the United States.

"First Commercial Sale" means, with respect to any Product and with respect to any country of the Territory, the first sale of such Product by Pfizer or an Affiliate or Sublicensee of Pfizer to a Third Party in such country after such Product has been granted Regulatory Approval by the appropriate Regulatory Authority(ies) for such country.

"GAAP" means United States generally accepted accounting principles, consistently applied.

"Governmental Authority" means any court, agency, department, authority or other instrumentality of any national, state, county, city or other political subdivision.

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"ND" means an Investigational New Drug Application submitted under the FD&C Act, or an analogous application or submission with any analogous agency or Regulatory Authority outside of the United States for the purposes of obtaining permission to conduct Clinical Trials.

"Joint Research Committee" or "JRC" means the steering committee described in Section 4.4.2(a).

"Know-How" means any proprietary invention, discovery, development, data, information, process, method, technique, material or other know-how, whether or not patentable, and any physical embodiments of any of the foregoing.

"Law" means any law, statute, rule, regulation, order, judgment or ordinance of any Governmental Authority.

"Major EU Market Country" means any of France, Germany, Italy, Spain or the United Kingdom.

"Major Market Country" means any Major EU Market Country, Japan or the United States.

"Manufacture" or "Manufacturing" means to make, produce, manufacture, process, fill, finish, package, label, perform quality assurance testing, release, ship or store a compound or product or any component thereof. When used as a noun, "Manufacture" or "Manufacturing" means any and all activities involved in Manufacturing a compound or product or any component thereof.

"Net Sales" means: (a) with respect to a Product that is not a Combination Product, gross receipts from sales by Pfizer and its Affiliates and Sublicensees of such Product to Third Parties in the Territory, less in each case (i) bad debts and (ii) sales returns and allowances actually paid, granted or accrued, including trade, quantity and cash discounts and any other adjustments, including those granted on account of price adjustments, billing errors, rejected goods, damaged or defective goods, recalls, returns, 'rebates, chargeback rebates, reimbursements or similar payments granted or given to wholesalers or other distributors, buying groups, health care insurance carriers, chain pharmacies, mass merchandisers, staff model HMO's, pharmacy benefit managers or other institutions, adjustments arising from consumer discount programs or other similar programs, customs or excise duties, sales tax, consumption tax, value added tax, and other taxes (except income taxes) or duties relating to sales, any payment in respect of sales to the United States government, any state government or any foreign government, or to any other Governmental Authority, or with respect to any government-subsidized program or managed care organization, and freight and insurance (to the extent that Pfizer, its Affiliates or its Sublicensees bear the cost of freight and insurance for the Product); and (b) with respect to a Product that is a Combination Product, that percentage of the Net Sales of such Combination Product (as determined in accordance with clause (a)) as Pfizer may reasonably determine based on the wholesale acquisition costs of the Antibody contained in a Product and the other active ingredient(s) in such Combination Product when sold separately, or other similar approach. Net Sales shall be determined from books and records maintained in accordance with GAAP, as consistently applied by Pfizer with respect to sales of the Product.

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“Patent Rights” means any and all (a) issued patents, (b) pending patent applications, including all provisional applications, substitutions, continuations, continuations-in-part, divisions and renewals, and all patents granted thereon, (c) patents-of-addition, reissues, reexaminations and extensions or restorations by existing or future extension or restoration mechanisms, including patent term adjustments, patent term extensions, supplementary protection certificates or the equivalent thereof, (d) inventor’s certificates, (e) other forms of government-issued rights substantially similar to any of the foregoing and (f) United States and foreign counterparts of any of the foregoing.

“Person” means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, incorporated association, joint venture or similar entity or organization, including a government or political subdivision or department or agency of a government.

“Pfizer Diligence Obligations” means Pfizer’s Development and Regulatory Approval diligence obligations under Section 5.2.1 and Pfizer’s Commercialization diligence obligations under Section 5.2.2.

“Pfizer Know-How” means any Know-How, including all Sponsored Research Know- How that (a) is Controlled by Pfizer on the Effective Date or that comes into the Control of Pfizer during the Term (other than through the grant of a license by Collaborator) and (b) relates to one or more Antibodies or Products or the Development, Manufacture, Commercialization or use of any of the foregoing.

“Pfizer Patent Right” means any Patent Right, including all Sponsored Research Patent Rights , that (a) is Controlled by Pfizer on the Effective Date or that comes into the Control of Pfizer during the Term (other than through the grant of a license by Collaborator) and (b) claims or discloses any (a) Antibody or Product (including the composition of matter thereof), (b) method of making any Antibody or Product or (c) method of using any Antibody or Product.

"Pfizer Quarter" means each of the four (4) thirteen (13) week periods (a) with respect to the United States, commencing on January 1 of any Pfizer Year and (b) with respect to any country in the Territory other than the United States, commencing on December 1 of any Pfizer Year.

"Pfizer Technology" means the Pfizer Patent Rights and Pfizer Know-How.

"Pfizer Year" means the twelve month fiscal periods observed by Pfizer (a) commencing on January 1 with respect to the United States and (b) commencing on December 1 with respect to any country in the Territory other than the United States.

"Phase I Clinical Trial" means a Clinical Trial that generally provides for the first introduction into humans of a pharmaceutical product with the primary purpose of determining safety, metabolism and pharmacokinetic properties and clinical pharmacology of such product, in a manner that .is generally consistent with 21 CFR § 312.21(a), as amended (or its successor regulation), or similar clinical study in a country other than the United States, *provided*, *however*, a Phase I Clinical Trial does not include any study generally characterized by the FDA as an "exploratory IND study" in CDER's *Guidance for Industry, Investigators, and Reviewers Exploratory IND Studies*, January 2006, irrespective of whether or not such study is actually performed in the United States or under an IND.

"Phase 2b Trial" means, with respect to the US, the second phase of human clinical trials of a Licensed Product to gain evidence of the efficacy in one or more indications and expanded evidence of the safety of such Licensed Product and an indication of the dosage regimen required, as described in 21 C.F.R.§ 312.21(b), as may be amended, or, with respect to any other country or jurisdiction, the equivalent of such a clinical trial in such other country or jurisdiction.

"Phase III Clinical Trial" means a pivotal Clinical Trial with a defined dose or a set of defined doses of a pharmaceutical product designed to ascertain efficacy and safety of such product, in a manner that is generally consistent with 21 CFR § 312.21(c), as amended (or its successor regulation), for the purpose of enabling the preparation and submission of an BLA, or similar clinical study in a country other than the United States.

"Price Approval" means, in any country where a Governmental Authority authorizes reimbursement for, or approves or determines pricing for, pharmaceutical products, receipt (or, if required to make such authorization, approval or determination effective, publication) of such reimbursement authorization or pricing approval or determination (as the case may be).

"Product" means any pharmaceutical product 'containing one or more Antibodies whose manufacture, use, sale, offer for sale or importation by Pfizer in a given country in the Territory is covered by a Valid Claim under a Collaborator Patent Right or Sponsored Research Patent Right in such country.

"Regulatory Approval" means all technical, medical and scientific licenses, registrations, authorizations and approvals (including approvals of BLAs, supplements and amendments, pre- and post- approvals, pricing and third party reimbursement approvals, and labeling approvals) of any Regulatory Authority, necessary for the use, Development, Manufacture, and Commercialization of a pharmaceutical product in a regulatory jurisdiction. [***]

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“Regulatory Authority” means, with respect to a country in the Territory, any national (e.g., the FDA), supra-national (e.g., the European Commission, the Council of the European Union, or the European Medicines Agency), regional, state or local regulatory agency, department, bureau, commission, council or other Governmental Authority involved in the granting of a Regulatory Approval.

“Relevant Factors” means all relevant factors that may affect the Development, Regulatory Approval or Commercialization of a Antibody or Product, including (as applicable): actual and potential issues of safety, efficacy or stability; product profile (including product modality, category and mechanism of action); stage of development or life cycle status; actual and projected Development, Regulatory Approval, Manufacturing, and Commercialization costs; any issues regarding the ability to Manufacture or have Manufactured any Antibody or Product; the likelihood of obtaining Regulatory Approvals (including satisfactory Price Approvals); the timing of such approvals; the current guidance and requirements for Regulatory Approval for the Product and similar products and the current and projected regulatory status; labeling or anticipated labeling; the then-current competitive environment and the likely competitive environment at the time of projected entry into the market; past performance of the Product or similar products; present and future market potential; existing or projected pricing, sales, reimbursement and profitability; pricing or reimbursement changes in relevant countries; proprietary position, strength and duration of patent protection and anticipated exclusivity; and other relevant scientific, technical, operational and commercial factors.

“Representatives” means (a) with respect to Pfizer, Pfizer, its Affiliates, its Sublicensees and each of their respective officers, directors, employees, consultants, contractors and agents and (b) with respect to Consultant, Consultant, its Affiliates and each of their respective officers, directors, employees, consultants, contractors and agents.

“Research Plan” means the research plan attached hereto as Exhibit C or D, as it may be amended from time to time pursuant to Section 4.2.

“Research Term” means the period of time beginning on the Effective Date and expiring on the third anniversary thereof or such later date as may be established pursuant to Section 4.5, unless earlier terminated pursuant to the terms of this Agreement.

“Royalty Term” means, with respect to any particular Product in any particular country in the Territory, the latter of (i) the period during which the sale, offer for sale or importation of such Product in such country is covered by a Valid Claim of the Sponsored Research Patent Rights or Collaborator Patent Rights covering such Product in such country, or (ii) 10 years from First Commercial Sale. For the avoidance of doubt, the Royalty Term for a given Product in a given country in the Territory (a) will not begin until the First Commercial Sale of such Product in such Country and (b) if not previously expired, will expire immediately upon expiration or termination of this Agreement.

“Sponsored Research Technology” means the Sponsored Research Patent Rights and Sponsored Research Know-How as those terms are defined in section 6.1.2 of this agreement.

"Sublicensee" means any Person to whom Pfizer grants or has granted, directly or indirectly, a sublicense of rights licensed by Collaborator to Pfizer under this Agreement.

"Target" means the therapeutic target [***]. In the event that a second [***] Target or fourth Target (or both) is identified by Pfizer and the Parties discuss and mutually agree upon a research plan (in accordance with Section 4.1) for such targets then, at such time, such target shall become a "Target". "Territory" means world-wide.

"Third Party" means any Person other than Pfizer, Collaborator or their respective Affiliates.

"Trademark" means any trademark, trade name, service mark, service name, brand, domain name, trade dress, logo, slogan or other indicia of origin or ownership, including the goodwill and activities associated with each of the foregoing.

"Valid Claim" means, with respect to a particular country, a claim of an issued and unexpired Collaborator Patent Right or Sponsored Research Patent Right that (a) has not been held permanently revoked, unenforceable or invalid by a decision of a court or other Governmental Authority of competent jurisdiction, which decision is unappealed or unappealable within the time allowed for appeal and (b) has not been cancelled, withdrawn, abandoned, disclaimed or admitted to be invalid or unenforceable through reissue, disclaimer or otherwise.

The following terms are defined in the section of this Agreement listed opposite each term:

| **Defined Term** | **Section in Agreement** |
|---|---|
| Additional Third Party License | 3.6.3(a) |
| Agreement | Preamble |
| Alliance Managers | 4.4.1 |
| Collaborator | Preamble |
| Collaborator Alliance Manager | 4.4.1 |
| Collaborator Indemnified Party | 10.2 |
| Collaborator JRC Members | 4.4.2(a) |
| Continuation Product | 9.7.1(a)(ii)(A) |
| Debtor | 9.8 |
| Designated Countries | 6.2.1(a) |
| Development Payment | 3.4 |
| Diligence Issue | 5.2.5 |
| Disclosed Third Party Agreement | 8.3.9 |
| Disclosing Party | 7.1 |
| [Execution Date] | Preamble |
| Indemnified Party | 10.4 |
| Indemnifying Party | 10.4 |
| Infringement Claim | 6.2.4 |

***Confidential Treatment Requested.**

| | |
|---|---|
| JRC Chair | 4.4.2(b) |
| Liability | 10.2 |
| Licensed Activities | 6.2.3(a) |
| Litigation Conditions | 10.4.2 |
| Marginal Royalty Rate | 3.6.1 |
| Non-Disclosing Party | 7.5.2 |
| Party or Parties | Preamble |
| Permitted Activities | 4.7.2 |
| Per Product Annual Net Sales | 3.6.1 |
| Pfizer | Preamble |
| Pfizer Alliance Manager | 4.4.1 |
| Pfizer Indemnified Party | 10.3 |
| Pfizer JRC Members | 4.4.2(a) |
| Pfizer Material Improvements | 4.7.6 |
| Pfizer Materials | 4.7.1 |
| Receiving Party | 7.1 |
| Research Program | 4.1 |
| Review Period | 7.5.2 |
| Sales Milestone Payment | 3.5 |
| Sponsored Research Know-How | 6.1.2 |
| Sponsored Research Patent Right | 6.1.2 |
| Term | 9.4 |
| Third Party Claim | 10.4.1 |
| Third Party IP Rights | 6.2.3(b) |
| Total Annual Net Sales | 3.5 |

**Exhibit B**

**Collaborator Patent Rights**

None

**Exhibit C**

[***]

***Confidential Treatment Requested.**

**Exhibit D**

[***]

***Confidential Treatment Requested.**

**Exhibit 10.67**

[***] Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

**RESEARCH COLLABORATION AGREEMENT**

This Research Collaboration Agreement (the **Agreement**) is dated as of July 1, 2009 (the **Effective Date**), between:

(1) **INTERNATIONAL AIDS VACCINE INITIATIVE**, a not-for-profit corporation with its principal offices located at 110 William Street, Floor 27, New York, NY 10038 (**IAVI**); and

(2) **THERACLONE SCIENCES, INC.** a biotechnology company with its principal offices located at 1124 Columbia Street, Suite 300, Seattle, WA 98104 (Theraclone).

IAVI and Theraclone, each a **Party** and together the **Parties**.

**RECITALS**

WHEREAS, IAVI is a global organization working to ensure the development of safe, effective, accessible, preventative HIV vaccines for use throughout the world.

WHEREAS, Theraclone is a biotechnology company focused on the development of novel therapeutic antibodies for the treatment of infectious disease and inflammation.

WHEREAS, IAVI and Theraclone have previously entered into a grant letter agreement dated as of February 1, 2008, as amended, which was funded by IAVI's Innovation Fund (the **Prior Agreement**) and successfully completed by Theraclone.

WHEREAS, IAVI and Theraclone now wish to enter into a further agreement to expand their collaboration so that Theraclone will use its technology to identify and rescue additional HIV neutralizing antibodies and generate quantities of HIV neutralizing antibodies for vaccine research to be conducted at IAVI or by IAVI collaborators, subject to the terms of this Agreement.

**IT IS AGREED AS FOLLOWS:**

**1. Discovery Program**

Each Party agrees to use its commercial best efforts to perform the research discovery program (the **Discovery Program**) set forth in the scope of work in Attachment I annexed hereto (the **Scope of Work**) within the time frame designated herein.

IAVI will also conduct and fund additional activities supportive of, and related to, the Discovery Program, including collection of donor samples, assay development and assay testing at Monogram Biosciences, activities related to the Program Team (as defined below), and the characterization of the Final MAbs (as defined in the Scope of Work).

**2. Term**

This Agreement will commence as of the Effective Date and will continue in full force and effect until all of the deliverables set forth in the Scope of Work (the **Deliverables**) have been delivered unless otherwise terminated in accordance with Section 8 (Expiration or Termination) below.

**3. Fixed Price and Payment**

(a) The total fixed price for the performance of activities covered in the Scope of Work by Theraclone is [***] (the **Total Fixed Price**).

(b) Subject to paragraph (c) below, the Total Fixed Price will be payable in the following, non-refundable installments:

(i) [***] on each of the Effective Date, [***]; and

(ii) [***].

If the delivery of all of the Deliverables occurs prior to [***], then all remaining installments shall become due and payable to Theraclone within thirty (30) days of such delivery.

(c) The payment of each installment of the Total Fixed Price (after the initial payment on the Effective Date) is guaranteed subject to (i) the receipt by IAVI of an invoice for such payment and (ii) the delivery of the quarterly report for such quarter (as referenced in Section 6 below) reflecting acceptable performance of the Scope of Work for such quarterly period, each on the following dates:

(i) [***]; and

(ii) [***].

In the event that IAVI is not satisfied with the performance of the Scope of Work for any quarterly period, then IAVI must notify Theraclone within 15 days of receipt of such quarterly report and provide reasonably detailed reasons for its lack of satisfaction. In the event that IAVI does not so notify Theraclone within such 15 day period, then IAVI will be deemed to be satisfied.

(d) All payments made by IAVI under this Agreement will be made in US Dollars by bank wire transfer to the following account:

***Confidential Treatement Requested.**

Bank Name: Silicon Valley Bank
ABA:
Account #:
Account Name: Theraclone Sciences, Inc.
Bank Address:

or any other account the details of which Theraclone provides to IAVI with five (5) days' notice.

(e) Any additional Deliverables requested from Theraclone which are mutually agreed to by the Parties will be subject to the terms and conditions of this Agreement, and paid by IAVI under a separate budget and payment plan.

**4. Program Management**

(a) A Joint Steering Committee (the **JSC**) shall be established within thirty (30) days after the Effective Date and shall be maintained throughout the term of this Agreement to provide oversight on the progress of the Discovery Program. The JSC shall consist of three (3) IAVI employees appointed by IAVI from time to time and three (3) Theraclone employees appointed by Theraclone from time to time, and shall be chaired by a member appointed by IAVI. It shall only act through the unanimous consent of its members, either at a meeting in which all members are in attendance or by a signed written consent in lieu of a meeting. Meetings of the JSC will be held quarterly. Meetings may be held by conference telephone call in which the members can hear the other members and be heard by them.

(b) The JSC shall appoint a Program Team of IAVI and Theraclone employees to collaborate on the isolation and characterization activities set forth in the Scope of Work and any patent filings with respect to the Discovery Program (the **Program Team**). The Program Team shall develop a detailed work plan and timetable for the isolation and characterization activities set forth in the Scope of Work. The Program Team will update the JSC at the JSC's quarterly meetings on the progress of the Scope of Work.

**5. Records and Audit**

(a) Theraclone shall maintain records of the results of the Discovery Program, including raw data and methods, in experimental notebooks that contain such information as shall be mutually agreed upon by IAVI and Theraclone.

(b) Theraclone agrees to permit IAVI, during normal business hours and with reasonable advance written notice, to audit and examine all records, including but not limited to, any documents, notes and financial accounts of Theraclone that relate to the Discovery Program and this Agreement, upon reasonable notice, at IAVI's expense. IAVI shall have the right to conduct such an audit once each calendar year.

**6. Reporting**

Each Party shall provide the other with quarterly written reports of the activities, progress, and results of the Discovery Program in a format and detail level that is mutually acceptable to each of the Parties on the dates set forth in section 3(c) above. Each Party shall provide a comprehensive final written report to the other on their respective contributions to the Discovery Program upon the delivery of the final Deliverables.

**7. Compliance**

(a) Theraclone agrees to comply with all laws, statutes, rules, regulations, and guidelines promulgated by any governmental agency, instrumentality, authority, or regulatory body having jurisdiction over any matters relating to the Discovery Program, including those related to studies involving micro-organisms, animals, or human subjects.

(b) Theraclone acknowledges that it is familiar with the U.S. Executive Orders and laws that prohibit the provision of resources and support to individuals and organizations associated with terrorism and the terrorist related lists promulgated by the U.S. Government. Theraclone will use reasonable efforts to ensure that it does not support or promote violence, terrorist activity or related training, or money laundering.

(c) IAVI anticipates that it will fund a portion of the Scope of Work with monies from the United States Agency for International Development (USAID). Therefore, this Agreement will be administered in accordance with the USAID Standard Provisions incorporated as Attachment II to this Agreement, with the exception of the following provisions which do not apply to this Agreement as currently executed: 2, 3, 4, 12, 13, 14, 19, 20, 21, 24, 26 and 29. In the event the scope/nature of this Agreement changes, this exception may be modified as deemed required by the Parties.

(d) In the event that IAVI utilizes monies originating from restricted sources other than USAID to fund the Scope of Work, IAVI shall notify Theraclone and provide Theraclone with copies of any rules, regulations, and grant requirements applicable to the Scope of Work funded with such monies. Restricted monies compliance provisions will be incorporated as an amendment to this Agreement's terms and conditions only after IAVI and Theraclone discuss them in good faith and mutually agree upon the use of such funds for the Scope of Work. IAVI agrees that it shall inform Theraclone of any such restrictions that present the potential for material breach of this Agreement as soon as possible.

(e) For the avoidance of doubt, due to restrictions contained in the informed consents used to obtain the new biological specimens provided to Theraclone under this Agreement, those biological specimens can only be used for the field of HIV, i.e., prophylactic and/or therapeutic HIV/AIDS vaccines, related diagnostic tools and HIV/AIDS treatment. In compliance with US Department of Health and Human Services/Office of Human Research Protection guidance, IAVI will not under any circumstances provide Theraclone personal identifying information or the key to decipher the code for any biological specimen to reveal the identity of the donor.

(f) If Theraclone uses subcontractors to assist in the completion of the Scope of Work. Theraclone is responsible for ensuring that any such subcontractor complies with the terms and conditions of this Agreement and the Scope of Work.

**8. Expiration or Termination**

(a) IAVI may terminate this Agreement immediately after providing Theraclone with sixty (60) days prior written notice if (i) IAVI is not reasonably satisfied with Theraclone's diligence in performing the Scope of Work or (ii) Theraclone fails to comply with any material term or condition of this Agreement, provided that such failure in performance or non-compliance is not cured within such sixty (60) day period. IAVI also reserves the right to withhold funds or terminate this Agreement if significant changes in scientific stalling at Theraclone occur that IAVI believes may jeopardize the Discovery Program.

(b) Theraclone may terminate this Agreement immediately after providing IAVI with sixty (60) days prior written notice of such failure to comply with any material term or condition of this Agreement, provided that such non-compliance is not cured within such sixty (60) day period.

(c) Upon expiration or termination of this Agreement, and upon (i) IAVI's request, Theraclone shall either destroy or return to IAVI all IAVI Materials, and (ii) Theraclone's request, IAVI shall either destroy or return to Theraclone all Theraclone Materials (for clarification, Theraclone Materials do not include Program Inventions and Program Deliverables (as set forth in the Scope of Work)).

(d) Upon the termination of this Agreement, Sections 6, and 8(b) through 17 shall survive any termination.

**9. Materials**

(a) The Parties anticipate that under this Agreement it may be necessary for either Party to transfer to the other material(s) of a proprietary nature, including but not limited to cell lines, vectors, nucleic acid sequences, sera, processes, samples and reagents (**Program Materials**). Program Materials provided by IAVI on a non-exclusive basis to Theraclone, whether owned by IAVI or by other third parties shall be, for purposes of this Agreement, owned by IAVI and controlled by the licenses granted by this Agreement (**IAVI Materials**). IAVI Materials are human biospecimens of freshly cryopreserved lymphocytes from HIV-infected volunteers, and include any cellular progeny, compositions and formulations of such materials, and any mixtures or combinations of such materials. Program Materials provided by Theraclone to IAVI, IAVI's collaborators, or IAVI's contractors shall be owned by Theraclone and controlled by the licenses granted by this Agreement (**Theraclone Materials**). Theraclone Materials include B-cell supernatants, any replicates, progeny, compositions, formulations, and derivatives therefrom (including, without limitation, antibodies derived from any of the foregoing), and any mixtures or combinations of such materials. The Parties agree that other Party's Program Materials may not be distributed to any other Party for any purpose except those covered by the licenses granted by this Agreement.

(b) THERACLONE AND IAVI DISCLAIM AND MAKE NO REPRESENTATIONS NOR WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AS TO ANY MATTER, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, PATENTABILITY OR THAT THE USE OF PROGRAM MATERIALS OR DISCOVERY PROGRAM RESULTS WILL NOT INFRINGE ANY PATENTS, COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS OF THIRD PARTIES. Notwithstanding the foregoing, IAVI hereby represents, warrants, and covenants to Theraclone that the IAVI Materials have been or will be collected under IRB-approved and appropriately consented protocols in which the subjects from which the IAVI Materials were sourced have released any and all claims to economic and intellectual property rights with respect to any potential future products derived from such materials and that such appropriately consented protocols allow for unencumbered product development related to the field of HIV.

**10. Intellectual Property**

(a) The Parties anticipate that it may be necessary for either Party to use its preexisting intellectual property in the performance of the Scope of Work (**Preexisting Inventions**). Each Party retains title and ownership to its Preexisting Inventions.

(b) Inventions conceived or first reduced to practice by either Party or jointly by the parties during and in the performance of the Scope of Work shall be determined in accordance with US Patent laws (**Program Inventions**). Ownership of Program Inventions shall follow inventorship. Program Inventions made by Theraclone shall be owned by Theraclone and defined as (**Theraclone Inventions**), Program Inventions made by IAVI shall be owned by IAVI and defined as (**IAVI Inventions**), and Program Inventions made jointly by IAVI and Theraclone shall be jointly owned and defined as (**Joint Inventions**). Notwithstanding anything in this Agreement to the contrary, if any B cell cultures or lysates (post B-cell activation) are transferred from Theraclone to IAVI, and antibodies are derived from such B cell cultures or lysates (post B-cell activation) at any time in the future, then such antibodies shall be regarded as and treated as Program Inventions under this Agreement. Regardless of inventorship or ownership of Program Inventions, the Parties agree to coordinate the characterization of the Final MAbs and the related data to maximize the potential utility of the Final MAbs. Prior to the filing of an initial U.S. provisional patent application relating to any Final MAbs, any transfer of such Final MAbs to any third party shall be reviewed and approved by the Program Team prior to such transfer. The Parties also agree that each Party shall promptly share Final MAbs characterization data with the other.

(c) Each Party agrees to secure assignments from its employees and execute any necessary assignments of Program Inventions to the other Party.

(d) For Theraclone Inventions, Theraclone will be responsible for deciding whether to prepare, file or prosecute (as the case may be) any patent applications and maintain, defend or enforce (as the case may be) any patents for Theraclone. For IAVI Inventions, IAVI will be responsible for deciding whether to prepare, file or prosecute (as the case may be) any patent applications and maintain, defend or enforce (as the case may be) any patents for IAVI. For Joint Inventions, Theraclone, after consultation with IAVI, shall prepare, file or prosecute (as the case may be) any patent applications, and maintain, defend or enforce (as the case may be) any patents. The Parties will also agree on coordinating the prosecution of patents for Joint Inventions and the appropriate sharing of patent related costs. Such sharing shall be allocated evenly between the Parties.

**11. Licenses**

(a) Under this Agreement the definition of licensed fields shall be defined as:

(i) "**IAVI Licensed Fields**" means use of any anti-HIV antibody or derivatives thereof derived from Program Materials and Program Inventions (A) as a tool to design HIV vaccines, (B) as part of any HIV vaccine (1) that is for prophylactic use, and (2) that is co-formulated with an immunogenic, bona fide HIV vaccine antigen or part of a vector expressing a protein, or (C) as part of any HIV diagnostic products; and

(ii) "**Theraclone Licensed Fields**" means use of an antibody or derivatives thereof derived from Program Materials and Program Inventions used (A) to treat (excluding vaccines) HIV, or (B) for an assay to pre-screen HIV- positive human patients to determine eligibility for a therapeutic treatment that incorporates an antibody proprietary to Theraclone, or for an assay to monitor HIV-positive human patients receiving such therapeutic treatment either during clinical development or following commercialization thereof.

(b) All licenses granted by this Agreement shall be for a "**Territory**" and Territory means the entire world.

(c) Licenses:

(i) IAVI hereby grants to Theraclone, under all of IAVI's intellectual property and proprietary rights in, to, and under the IAVI Materials and the Program Inventions, an irrevocable, perpetual, exclusive, sublicensable (through multiple tiers of sublicenses), fully paid-up, royalty-free right and license in the Territory to make, have made, use, have used, sell, have sold, offer for sale, have offered for sale, or import any and all antibodies related to or from the IAVI Materials and Program Inventions in the Theraclone Licensed Fields, with the understanding that Theraclone shall ensure that any commercial program for HIV treatment products will incorporate the principles of prompt dissemination of data and licensed access to products or enabling reagents at affordable prices in reasonable quantities for Developing Countries. As used herein the term "Developing Countries" shall mean all countries in the Territory except for the USA, Canada, the countries of the European Union (Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom), Switzerland, Iceland, Japan, Australia, and New Zealand. Notwithstanding the foregoing, any license with respect to Section 1(a)(ii)(B) shall be non-exclusive.

(ii) Theraclone hereby grants to IAVI, under all of Theraclone's intellectual property and proprietary rights in, to and under Theraclone Materials and the Program Inventions, an irrevocable, perpetual, exclusive, sublicensable (through multiple tiers of sublicenses), fully paid-up, royalty-free right and license in the Territory to make, have made, use, have used, sell, have sold, offer for sale, have offered for sale, or import any and all antibodies related to or from the Theraclone Materials and Program Inventions in the IAVI Licensed Fields with the understanding that IAVI shall ensure that any commercial program will incorporate the principles of prompt dissemination of data and access to products at affordable prices in Developing Countries.

(d) Each Party hereby reserves all rights in and to all its respective materials and inventions not expressly granted in this Agreement and there are no implied rights or licenses under this Agreement.

**12. Confidentiality**

(a) **Confidential Information** shall mean any proprietary information disclosed by either Party to the other Party, in connection with this Agreement, or any data relating to, or generated in the Program (the Confidential Information). For the avoidance of doubt, any information related to the source of any biological samples provided by IAVI to Theraclone shall be considered Confidential Information of IAVI. The receiving Party agrees not to disclose the Confidential Information to its employees, directors or other advisors or representatives, except on a need to know basis to persons subject to confidentiality obligations (or with the consent of the disclosing Party), not to use the Confidential Information except for purposes contemplated by this Agreement and to use its reasonable commercial efforts to prevent its disclosure to third parties.

(b) These obligations of nondisclosure and nonuse do not apply to any Confidential Information which the receiving Party can demonstrate by reliable written evidence:

(i) was generally available to the public at the time of disclosure to the receiving Party;

(ii) was already in the possession of the receiving Party at the time of the disclosure, other than pursuant to a confidential disclosure agreement between the Parties, and not due to any unauthorized act by the receiving Party;

(iii) becomes lawfully known to it by disclosure from a third party who is legally entitled to so disclose without being made subject to an obligation of confidence by a third party;

(iv) was independently developed by an agent or employee of that receiving Party who at no time had any knowledge of or access to that Confidential Information;

(v) the receiving Party is required by law to disclose; or

(vi) is necessary for IAVI, its agents or its donors for the purpose of auditing this Agreement.

(c) Each Party acknowledges that the other Party would not have any adequate remedy at law for the breach by it of any one or more of its obligations contained in this Section 12 and agrees that, notwithstanding Section 15 (Dispute Resolution) below, in the event of any such actual or potential breach, the non-breaching Party may, in addition to the other remedies which may be available to it, file a suit in equity, to enforce such obligations by appropriate injunctive relief.

(d) Upon termination or expiration of this Agreement, each Party will, at the request of the other Party, either promptly return all Confidential Information of the other Party, and any copies thereof, in its possession or control, or certify in writing that all tangible Confidential Information has been destroyed. Notwithstanding the foregoing, each Party may retain, solely for the purpose of determining the scope of its obligations under this Agreement, one (1) copy of such Confidential Information.

**13. Publications and Public Announcements**

(a) All reports and papers of research and other activities conducted under the Discovery Program may be published by IAVI or Theraclone in accordance with academic standards. Authorship shall be determined in accordance with academic standards. Any such reports or papers shall reference the fact that the Discovery Program was conducted pursuant to funding from IAVI and shall acknowledge IAVI's source of funds. The Party wishing to publish agrees to submit an advance draft of any proposed publication or presentation of results to the other Party for review prior to publication. Within thirty (30) days of its receipt or fifteen (15) days in the case of oral presentations, the non-publishing Party shall advise the publishing Party in writing of any proprietary or patentable information contained therein and may, as necessary, formally request to delay the disclosure of the information. The publishing Party agrees to refrain from publishing any such information categorized by the non-publishing Party as proprietary or patentable for a period not to exceed thirty (30) days from the date of such written request, to enable the non-publishing Party to appropriately coordinate with the publishing Party to file for the protection of any intellectual property or proprietary property interests.

(b) IAVI may include information on this Agreement in its periodic public reports and may make information about this Agreement public at any time on its web page and as part of press releases, public reports, speeches, newsletters, and other public documents. If Theraclone wishes to issue a press release, report, article or other announcement or other publication associated with, or referencing this Agreement or the Scope of Work (whether at its inception or at any time during the term of the Scope of Work), or otherwise use IAVI's name or logo, Theraclone must contact IAVI to obtain advance written approval from IAVI which approval will not be unreasonably withheld or delayed. In any such report, article, announcement or publication, IAVI's funding of the Discovery Program and IAVI's source of funds will be acknowledged. Theraclone may reference information content from prior approved announcements or releases without the need for consent from IAVI on each occasion if the information is already in the public domain.

(c) Theraclone has been selected to collaborate in the Discovery Program and Theraclone may not make any statement or otherwise imply to the media, the general public or any other donor or investor that Theraclone, its operations, or its collaboration in this program is supported by any organization other than IAVI unless Theraclone has directly received funds from the other organization.

(d) Neither Party shall prevent the other from publishing on their respective technologies provided that the publication does not disclose any Confidential Information of the other Party.

(e) The Parties will agree on procedures and rules for data handling and use of each Party's name in public disclosures including for the use of information related to donor samples and their collection sites. The Parties shall also agree on procedures and rules for trademarks and branding with the basic goal of acknowledging both Parties' contributions to the Discovery Program.

**14. Indemnification**

To the extent allowable under the law, each Party agrees to indemnify, defend and hold the other Party and its respective officers, agents, employees, subgrantees, contractors, and subcontractors harmless from and against any and all liability, loss, and expense (including reasonable attorneys' fees) or claims for injury or damages arising out of or resulting from, or that are alleged to arise out of or result from, the actions or omissions by such Party or of any of its officers, agents, employees, subgrantees, contractors or subcontractors with respect to this Agreement.

**15. Dispute Resolution**

Prior to engaging in any formal dispute resolution with respect to any dispute, controversy or claim arising out of or in relation to this Agreement, or the breach, termination or invalidity hereof (each, a "**Dispute**"), the Chief Executive Officers of the Parties or their designees shall attempt over a period of not more than thirty (30) days to resolve such Dispute. In the case of Disputes that the Chief Executive Officers cannot resolve within such thirty (30) day period, such a Dispute shall be finally settled by binding arbitration in accordance with the arbitration rules of the American Arbitration Association ("**AAA**") in force at that time. If the Parties cannot agree upon an arbitrator within ten (10) days after demand by either of them, either or both Parties may request the AAA to name a panel of five (5) arbitrators. IAVI shall then strike the names of two (2) on this list, and Theraclone shall then strike two (2) names, and the remaining name shall be the arbitrator. The place of the arbitration shall be in Seattle, Washington, if initiated by IAVI and in New York, New York if initiated by Theraclone. The arbitrator's award rendered shall be final and binding upon the parties. Judgment upon the award may be entered in any court having jurisdiction, or application may be made to such court for judicial acceptance of the award and/or an order of enforcement, as the case may be. The expense of the arbitrator shall be shared equally by the parties. In any action brought to enforce or interpret the provisions of this Agreement, the prevailing Party will be entitled to reasonable legal and attorneys' fees as determined by the arbitrator or court in the same action.

**16. Notices**

(a) Any consent, notice or report permitted or required pursuant to this Agreement must be in writing and, unless otherwise stated, may be given in person, by first- class mail, fax or email as follows (or to any other address the details of which a Party provides to the other with five (5) days' notice):

(i) if to IAVI, to:

| | |
|---|---|
| Address: | International AIDS Vaccine Initiative<br>110 William Street, 27th Floor<br>New York, NY 10038 |
| Fax No.: | 001 212 847 1132 |
| Attention: | - Elisha Manning (emanning@iavi.org), for all invoices<br><br>- Ruchey Sharma (rsharma@iavi.org), in connection with contract administration or amendment under this Agreement<br><br>- Steve Fling (sfling@iavi.org), in connection with any other communication, including technical and operational, under this Agreement; and |

(ii) if to Theraclone, to:

| | |
|---|---|
| Address: | 1124 Columbia Street<br>Suite 300<br>Seattle, WA 98104 |
| Fax No.: | 206-805-1699 |
| Attention: | David Fanning |

(b) Any communication in connection with this Agreement will be deemed to be Oven at the time of delivery, if delivered in person; three (3) business days after being placed in the mail, if sent by first-class mail, or when received if sent by fax or email.

**17. Other Terms**

(a) Nothing, in this Agreement will be deemed to create an agency, joint venture or partnership between the Parties. Each Party will be responsible for all taxes and benefits of their own employees and neither Party's employees will be deemed agents or employees of the other Party.

(b) This Agreement is binding upon and shall inure to the benefit of the Parties hereto, and their respective representatives, successors and assigns. No failure or successive failures on the part of either Party, its successors or assigns, to enforce any covenant or agreement, and no waiver or successive waivers on its or their part of any condition of this Agreement, shall operate as a discharge of such covenant, agreement or condition, or render the same invalid, or impair the right of either Party, its successors and assigns to enforce the same in the event of any subsequent breach or breaches by the other Party, its successors or assigns.

(c) This Agreement will be governed by and construed in accordance with the laws of the State of New York, without giving effect to principles of conflicts of laws.

(d) This Agreement including its attachments constitute the entire agreement and understanding between IAVI and Theraclone with regard to the transactions contemplated by this Agreement, and supersede any prior verbal or written contracts, agreements and/or obligations between the Parties. Any amendments to this Agreement including its attachments are subject to prior written approval of IAVI and Theraclone.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by their authorized representatives.

**International AIDS Vaccine Initiative**

By: /s/ Seth Berkley
Name: Seth Berkley
Title: President & CEO
Date: June 24, 2009

**Theraclone Sciences, Inc.**

By: /s/ David Fanning
Name: David Fanning
Title: President & CEO
Date: June 23, 2009

**ATTACHMENT I**

**SCOPE OF WORK**

[***]

***Confidential Treatement Requested.**

**ATTACHMENT II**

**Supplementary Provisions:**
**Standard USAID Requirements**

Contractor shall comply with the standard USAID requirements specified in this Appendix. The term "Contractor' shall also mean "Recipient" or "Grantee" and the term "Agreement" shall also mean "Contract", "Award" or "Grant" for the purposes of these requirements.

1. Applicability of 22 CFR Part 226
2. Reimbursable Costs
3. Indirect Costs
4. Accounting Systems and Records
5. Payment Advances and Refunds
6. Debarment
7. Probity
8. Nonliability and Disclaimers
9. Procurement and Eligibility Rules of Goods and Services
10. Capital Expenditures
11. Travel and Transportation
12. Human Subjects Research
13. Animal Welfare
14. Worker's Compensation Insurance
15. Nondiscrimination
16. Real Property
17. Clean/Air Water
18. Publications and Media Releases
19. Investment Promotion
20. Organizations Eligible for Assistance
21. Condoms
22. Prohibition on the Promotion or Advocacy of the Legalization or Practice of Prostitution or Sex Trafficking
23. Equal Protection of the Laws for Faith-Based and Community Organizations
24. Voluntary Population Planning Activities - Mandatory Requirements
25. Participant Training
26. Reporting of Foreign Taxes
27. Drug Free Workplace
28. USAID Disability Policy
29 Foreign Government Delegations to International Conferences
30. Marking under USAID Funded Assistance

The following are the principal standard federal requirements applicable to the performance of both parties' responsibilities under this Agreement (in addition and without prejudice to the other provisions of this Agreement):

(1) Applicability of 22 CFR Part 226. *This provision is only applicable to agreements and subagreements awarded to U.S. organizations.* All provisions of 22 CFR Part 226 are applicable to this Agreement.

(2) Reimbursable Costs. *This Provision is Only applicable to cost reimbursement contracts.* To be reimbursable under this Agreement, costs must comply with the applicable cost principles. For educational institutions, use OMB Circular A-21; for all other non-profit organizations, use OMB Circular A-122; and for profit making fines, use Federal Acquisition Regulation 31.2 (see below). Requirements include the following, without limitation: direct costs must be necessary and incurred specifically for the Services; verifiable from the books and records of Contractor, as applicable, and supported by source documentation; allocable to this Agreement; reasonable in nature and amount; and allowable (i.e. conform to the provisions and limitations of this Agreement). To facilitate monitoring of charges under this Agreement, once each year. IAVI may provide Contractor with a USAID compliance form which Contractor agrees to fill out completely and accurately and return promptly to IAVI for review and consultation as appropriate.

(3) Indirect Costs. *This Provision is only applicable to cost reimbursement contracts.* Unless predetermined indirect cost rates are included in the approved budget for this Agreement (or each Task Order, when applicable), funding from USAID will only be used for reimbursable direct costs.

(4) Accounting Systems, Records and Audits. *This Provision is only applicable to cost reimbursement contracts.* Contractor shall maintain books, records, documents and other evidence in accordance with generally accepted and recognized accounting procedures. Contractor shall preserve and make available its accounting records and documents for examination and audit by IAVI, USAID and the Comptroller General of the United States, or any of their duly authorized representatives: (a) until the expiration of three years from the termination of this Agreement; (b) for such longer period, if any, as is required to complete an audit to resolve all questions concerning expenditures unless written approval has been obtained from USAID to dispose of the records; and (c) if any litigation, claim, or audit is started before the expiration of the three year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved. Contractor agrees to make available any further information requested by either IAVI or USAID with respect to any questions arising as a result of the aforementioned audit. U.S. organizations are also subject to the audit requirements of 22 CFR 226.26 (Non-Federal Audits). Non-U.S. organizations may be subject to annual audit in accordance with the "Guidelines for Financial Audits Contracted by Foreign Recipients" issued by the USAID Inspector General.

(5) Payment Advances and Refunds. If Contractor receives advance payments under this Agreement, Contractor shall maintain advances in interest hearing accounts unless: 1) Contractor receives less than [***] in U.S. Government awards per year; or 2) the best interest bearing account would not be expected to earn more than [***] in interest each year; or 3) the bank would require an unreasonable average or minimum balance so as to make it impractical to do so. Interest earned in excess of [***] per year must be refunded to IAVI. In addition, funds advanced to Contractor but not expended by the end of this Agreement or not expended in accordance with the terms of this Agreement must be refunded to IAVI.

(6) Debarment. Contractor certifies that neither it nor its principals is presently excluded or disqualified or proposed for exclusion or disqualification from participation in this Agreement by any U.S. Federal department or agency (see the U.S. Governments Excluded Parties List at http://epls.arnet.gov). Furthermore, Contractor agrees that it will not knowingly enter into a subcontract or subaward with a disqualified or excluded party on this list. Contractor agrees to notify IAVI immediately upon learning that it or any of its principals: 1) are presently excluded or disqualified from covered transactions by any Federal department or agency; 2) have been indicted or otherwise criminally or civilly charged, convicted of or had a civil judgment rendered against them for commission of any of the acts listed in the USAID Standard Provision entitled "Debarment, Suspension, and other Responsibility Matters"; or 3) have had one or more public transactions (with local, State or the Federal governments) terminated for cause or default within the preceding three years. Contractor shall include this provision in any subcontracts or subawards under this Agreement.

***Confidential Treatement Requested.**

(7) Probity. (a) Contractor represents and warrants that (i) to the best of its knowledge and belief, no IAVI employee, officer, or agent, or member of his/her immediate family, his or her partner, or an organization which is about to employ any of the foregoing, has a financial interest in Contractor; and (ii) no officer, employee or agent of IAVI has solicited or accepted gratuities, favors, or anything of monetary value from Contractor.

(b) U.S. Executive Orders and U.S. law prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of Contractor to ensure compliance with these Executive Orders and laws in the conduct of its own activities. Contractor is required to obtain the updated lists at the time of procurement of goods or services. The updated lists are available at: http://treasury.gov/offices/enforcement/ofac/sanctions/terrorism.htm and http://www.un.org/Docs/sc/committees/1267. This provision must be included in all contracts, subcontracts or subawards awarded hereunder.

(8) Nonliability and Disclaimers. Contractor agrees that USAID will not assume liability for third party claims for damages arising out of this Agreement and that Contractor will have no relationship with USAID solely because of this Agreement.

(9) Procurement and Eligibility Rules of Goods and Services. (a) Procurements of goods and services pursuant to this Agreement shall be conducted in accordance with sound commercial practices and the USAID Standard Provisions "USAID Eligibility Rules for Goods and Services (April 1998)" and shall be supported by original invoices or other appropriate supporting documentation. Furthermore, procurement by U.S. organizations should be in accordance with the procurement procedures outlined in 22 CFR 226.44, and procurement by non-U.S. organizations should be in accordance with the Standard Provisions for Non-U.S. Organizations entitled 'Procurement of Goods and Services (October 1998)". The text of these policies is available on USAID's website (see below).

(b) Goods on USAJD's list of ineligible items (military equipment, surveillance equipment, equipment to support police or law enforcement activities, abortion equipment, luxury goods, gambling equipment, and weather modification equipment) may not be financed. Goods on USAID's list of restricted items (agricultural equipment, pesticides, fertilizers. U.S. government-owned excess property, used equipment, pharmaceuticals, including HIV Test kits, motor vehicles and motor bikes) may only be financed with IAVI's written approval.

(c) Other Goods and services may be procured from any country except the following Foreign Policy Restricted Countries: Cuba, Iran, Laos, North Korea, or Syria. Goods may not be procured from firms on the U.S. government's Excluded Parties List (see "http://epls.arnet.gov"). For purposes of the preceding sentence, "procured from" includes supplier nationality (for goods and services) and the source and origin of the goods.

(10) Capital Expenditures.

(a) Unless indicated otherwise in the schedule of this Agreement, title to all equipment purchased with funds provided hereunder shall belong to IAVI.

(b) Contractor must obtain IAVI's prior written approval before: (i) purchasing capital equipment or (ii) incurring costs for renovations or other material improvements to land, buildings or equipment, if such equipment or costs is/are not included in the approved budget.

(11) Travel and Transportation. *This provision is applicable when international travel is authorized under this Agreement.* Unless included in the approved budget for this Agreement, no funds may be expended for international travel without IAVI's written approval. Expenditures of hinds provided under this Agreement (i) for transportation of goods or travel of personnel overseas shall be subject to the USAID Standard Provision, "International Air Travel and Transportation (JUNE 1999)," and (ii) for shipments of goods by sea shall be subject to the USAID Standard Provision, "Ocean Shipment of Goods (JUNE 1999)." U.S. flag carriers must be used to the extent service by such carriers is available. The text of these provisions is available on USAID's website (see below). This provision will be included in all subawards and contracts hereunder which require international travel and transportation.

(12) Human Subjects Research. *This provision is applicable when human subjects research is conducted pursuant to this Agreement.* Contractor agrees to comply with USAID policies. to the extent applicable, including without limitation the Common Federal Policy for the Protection of Human Subjects (implemented by USAID at 22 CFR Part 225); the "Procedures for Protection of Human Subjects in Research Supported by USAID"; and the USAID Standard Provision entitled "Protection of the Individual as a Research Subject (APRIL 1998)." The texts of these policies are available on USAID's website (see below.)

(13) Animal Welfare. *This provision is applicable when research involving laboratory animals is conducted pursuant to this Agreement.* Contractor agrees to work with IAVI to ensure compliance with USAID policies to the extent applicable, as referenced in the USAID Standard Provision entitled "Care of Laboratory Animals (MARCH 2004)". The text of this policy is available on USAID's website (see below).

(14) Worker's Compensation Insurance. *The provision is applicable to U.S. based contractors who will perform work hereunder outside the United States.* Pursuant to 22 CFR Part 226, Appendix A, Contractor agrees to provide worker's compensation insurance to all persons employed outside the U.S. who are U.S. citizens or residents. Contractor agrees to provide insurance required by applicable law to all persons employed outside the U.S. who are not U.S. citizens or residents

(15) Nondiscrimination. *This provision is applicable when work under this Agreement will be performed in the United States or when employees are recruited in the United States.* No U.S. citizen or legal resident of the United States will be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any activity funded under this Agreement on the basis of race, color, national origin, age, handicap or sex.

(16) Real Property. Funding may not be used under this Agreement to construct, alter, repair or improve real property without IAVI's advance written approval, which [approval] may be subject to additional USAID requirements.

(17) Clean Air/Water. *This provision is applicable to contracts in excess of $100,000 to be performed in the United States.* Contractor agrees to comply with all applicable standards, orders or regulations pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.) Violations are to be reported to IAVI.

(18) Publications and Media Releases. (a) Contractor shall provide to IAVI, for submission to USAID, one hard copy and one electronic copy in PDF form, if available, of all published works developed under this Agreement. Each document submitted should contain essential bibliographic elements such as 1) descriptive title; 2) author(s) name; 3) date of publication: 4) and a statement that this publication was funded in whole or in part by the International AIDS Vaccine Initiative under Cooperative Agreement No. GPO-A-00-06-00006-00 awarded by the U.S. Agency for International Development (Office of Health/AIDS, Bureau of Global Health, S.O. 936-004).

(b) In the event funds provided under this Agreement are used to fund the cost of publishing, any related profits or royalties realized by Contractor (up to the amount of these publishing costs) should be credited back to this Agreement.

(c) Except as otherwise provided elsewhere in this Agreement, the author or Contractor is free to copyright any books, publications or copyrightable materials development under this Agreement; however USAID reserves a royalty-free nonexclusive and revocable right to reproduce, publish, or otherwise use, and to authorize others to use, the work for U.S. government purposes.

(d) Any "public communications", as defined in 22 CFR 226.2, funded under this Agreement in which the content has not been approved by USAID, must contain the following disclaimer:

> *"This study/report/audio/visual/other information/media project is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of [insert Contractor's name] and do not necessarily reflect the views of USAID or the United States Government".*

(19) Investment Promotion. Except as may be specifically set forth in this Agreement or as IAVI may otherwise approve in advance, no funds or other support provided under this Agreement may be used by Contractor for an activity that involves investment promotion in a foreign country. The Contractor must ensure that its employees and subrecipients and contractors providing investment promotion services are made aware of these restrictions and include this clause in all subagreements and contracts.

(20) Organizations Eligible for Assistance. If Contractor is otherwise eligible to receive funds under this Agreement to prevent, treat, or monitor HIV/AIDS, Contractor shall not be required to endorse or utilize a multisectoral approach to combatting HIV/AIDS or to endorse, utilize, or participate in a prevention method or treatment program to which Contractor has a religious or moral objection. The Contractor shall include this provision in any subcontracts or subawards under this Agreement.

(21) Condoms. If information is provided under this Agreement about the use of condoms, the information shall be medically accurate and shall include the public health benefits and failure rates of such use and shall be consistent with USAID's fact sheet entitled "USAID: HIV/STI Prevention and Condoms". This fact sheet may be accessed at: http://www.usaid.gov/our_work/global_health/aids/TechAreas/prevention/condomfactsheet.html."

(22) Prohibition on the Promotion or Advocacy of the Legalization or Practice of Prostitution or Sex Trafficking. None of the funds made available under this Agreement may be used by Contractor to promote or advocate the legalization or practice of prostitution or sex trafficking. The funds made available under this Agreement may be used by Contractor to provide palliative care, treatment, or post-exposure pharmaceutical prophylaxis, and necessary pharmaceuticals and commodities, including test kits, condoms, and, when proven effective, microbicides, if applicable under this Agreement. For the purposes of this provision, "sex trafficking" means the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act. The Contractor shall include this provision in any subcontracts or subawards under this Agreement.

(23) Equal Protection of the Laws for Faith-Based and Community Organizations. (a) In providing services supported by this Agreement or in its outreach activities related to these services, Contractor may not discriminate against any beneficiary or potential beneficiary on the basis of religion or religious belief.

(b) If Contractor engages in inherently religious activities, these activities must occur at a different time and/or location from any programs or services funded by this Agreement.

(c) In awarding subagreements or contracts under this Agreement, Contractor should not discriminate against a faith-based organization in selecting qualified organizations.

(24) Voluntary Population Planning Activities — Mandatory Requirements. (a) No funds under this Agreement may be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any individual to practice sterilization.

(b) No funds under this Agreement made be used to finance, support or be attributed to any activities whatsoever related to the performance of abortion as a method of family planning, including paying incentives to coerce or motive individuals to have abortions. The term "motivate" as it relates to family planning assistance shall not be construed to prohibit the provision, consistent with local law, of information or counseling about all pregnancy options.

c) No funds under this Agreement may be used for biomedical research which relates in whole or in part to the methods or performance of abortions or involuntary sterilization as a means of family planning. This does not preclude epidemiological or descriptive research to assess the incidence, extent or consequences of abortions.

(25) Participant Training. *This provision is applicable to this Agreement if training will be provided to any non-U.S. individual outside of that individual 's home county.* Participant training under this Agreement shall comply with the policies established in USAID ADS Chapter 253.

(26) Reporting of Foreign Taxes. Quarterly financial reports or other requests for reimbursement in accordance with the payment terms of this Agreement should include the amount of any value added tax (VAT) and custom duties paid to the foreign government of the country receiving assistance hereunder on commodity purchase transactions valued at $500 or more financed under this Agreement as well as any reimbursements of such taxes that may be received during the period of this Agreement. "Commodity" means any material, article, supply, goods or equipment.

(27) Drug Free Workplace. Within 30 days after either the effective date of this Agreement, if awarded after July 11, 2006 or of the effective date of the amendment incorporating this provision if this Agreement was awarded prior to July 11, 2006. Contractor agrees to publish a drug-free workplace statement and provide a copy to each employee who will be engaged in performance of this Agreement. The statement must be in accordance with the USAID Standard Provision entitled "Drug-Free Workplace (JAN 2004)". Contractor agrees to both immediately notify IAVI if an employee working hereunder is convicted of a drug violation in the workplace and to either terminate the employee or take other appropriate action in accordance with the above-referenced Standard Provision.

(28) USAID Disability Policy. Contractor shall not discriminate against people with disabilities in the implementation of the program funded by this Agreement and shall make every effort to comply with the objectives of the USAID Disability Policy to the extent that it can do so within the scope of the program. The full text of the policy can be found at http://www.usaid.gov/about/disability/DISABPOL.FIN.html.

(29) Foreign Government Delegations to International Conferences. Funds in this Agreement may not be used to finance any travel costs or conferences fees for any member of a foreign government's delegation to an international conference sponsored by a public international organization, except as provided in USAID ADS Mandatory Reference "Guidance on Funding Foreign Government Delegations to International Conferences" or as approved by USAID.

(30) Marking under USAID Funded Assistance. As a condition of receipt of this Agreement, Contractor must mark all overseas programs, projects, activities, public communications and commodities in accordance with the attached IAVI Marking Plan. In doing so, marking with either the IAVI logo or the USAID logo (as stipulated) should be of a size and prominence equivalent to or greater than the logos of Contractor, Contractor's other donors, or third parties.

The text of the Standard Provisions and other regulations that are referenced above is available at the following websites. IAVI will provide a copy upon request.

22 CFR Part 226 - http://www.access.gpo.gov/nara/cfr/waisidx_02/22cfr226_02.html
OMB Circular A-122 - http://www.whitehouse.gov/omb/circulars/a122/a122_2004.html
OMB Circular A-21 - http://www.whitehouse.gov/omb/circulars/a021/a21_2004.html
FAR Part 31.2 - http://www.arnet.gov/far/current/html/Subpart%2031_2.html#wp1095552
USAID Standard Provisions for U.S. Organizations - http://www.usaid.gov/policy/ads/300/303maa.pdf
USAID Standard Provisions for non-U.S. Organizations - http://www.usaid.eov/policy/ads/300/303mab.pdf

**IAVI Marking Plan**
**under USAID Cooperative Agreement GPO-A-00-06-00006-00**

As an international organization, IAVI's continued success in accelerating the development of promising HIV vaccine candidates relies upon long-term engagement with our diverse portfolio of contributors and other stakeholders. This fact is reflected in our Marking Plan. Under this Plan, IAVI had developed a multi-donor logo which acknowledges all of IAVI's governmental and largest private sector donors. This logo will be applied universally, both domestically and outside the U.S., to mark items such as physical infrastructure, workshops, and program communications; however, the USAID-logo sticker by itself will be used to mark equipment procured entirely with USAID funds. For example, when appropriate, items would be marked as follows:

- Publications and other public communications marked with IAVI multi-donor logo in a visible location such as the front or back cover
- Invitation letterhead, report or cover marked with IAVI multi-donor logo in a visible location such as in the body text or footnoted
- Equipment marked with a USAID logo sticker in a visible location
- Infrastructure marked with a IAVI multi-donor plaque in a visible location

Marking with either the IAVI logo or the USAID logo (as stipulated above) should be of a size and prominence equivalent to or greater than the logos of the contractor/recipient, other donors, or other third parties. The Marking Plan Table which follows indicates the items and activities to be marked and those which are exempt from marking.

The USAID logo stickers (for equipment) can be either obtained from IAVI or ordered directly from vendors listed on the USAID website (http://www.usaid.gov/branding/suppliers.html). An electronic file of the IAVI multi-donor logo below will be sent by IAVI to each contractor/recipient.

**IAVI MARKING TABLE**

| ACTIVITY | TO BE MARKED | NOT TO BE MARKED (EXEMPT)* |
|---|---|---|
| **External Publications** | Informational, educational and communication materials for use by staff, partners and other stakeholders on AIDS vaccines and related topics (includes leaflets & brochures) | Reports and publications done in partnership with governments |
| | Research working papers, policy briefs, and discussion papers | |
| | | |
| **Tools and Operational Documents** | Tool kit for needs assessment/program planning for community involvement | |
| | Community advisory board(s) guidance documents | |
| | | |
| **Reports** | Reports of select social science research projects on issues relevant to clinical research in developing countries or reports from needs assessment and monitoring and evaluation efforts | Reports on programs involving governmental policies and programs |
| | | |
| **Workshops, technical meetings, training programs, seminars, consultations** | Invitation letters, informational handouts, briefs, reports, and meeting signage | Invitation letters, informational handouts, briefs, reports, and meeting signage for Policy Makers Workshops covering national policy issues |
| | | Meetings and trainings implemented in partnership with the Government of India |
| | | |
| **Core Laboratory (Imperial College; trial sites and** laboratories in Africa and India; biotechnology firms and pharmaceuticals outside the U.S.) | Buildings/facilities | Internal Documents (e.g. Good Clinical Laboratory Practice guidelines, standard operating procedures guidelines, audits, validation study reports, clinical trial study reports, etc.) |
| | Laboratory and office equipment unless item is too small or marking would impair functionality | Consumables and laboratory supplies such as scissors, forceps, test tubes, vaccine vials, pipettes |
| | Shipping containers packed with equipment or supplies to the Africa or India IAVI sites unless marking would jeopardize the integrity of the contents | Shipping clinical samples from site to London or Johannesburg core labs |

* If IAVI determines that these items/activities are no longer exempt, IAVI will notify the subawardee or contractor in writing that these items/activities should also be marked with the IAVI multi-donor logo (or the USAID logo for equipment).

June 25, 2009

International AIDS Vaccine Initiative

110 William Street
New York, NY
10038-3901 USA
www.iavi.org
info@iavi.org
tel:212.847.1111
fax:212.847.1112

David Fanning
President and CEO
Theraclone Sciences, Inc.
1124 Columbia Street, Suite 300
Seattle, WA 98104

Dear Mr. Fanning,

I am enclosing an original copy of the Research Collaboration Agreement between IAVI and Theraclone. If you have any questions, please feel free to contact me.

Best regards,

Rachel Belt
Executive Assistant, Office of the General Counsel
International AIDS Vaccine Initiative
Tel.: 212.847.1109
Fax: 212.847.1112

**Exhibit 10.68**

[***]Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

**AMENDMENT NO. 1**
**TO RESEARCH COLLABORATION AGREEMENT**

This Amendment No. 1 to the Research Collaboration Agreement (this **Amendment**) is dated as of November 30, 2010 (the **Effective Date**), between:

(1) **INTERNATIONAL AIDS VACCINE INITIATIVE**, a not-for-profit corporation with its principal offices located at 110 William Street, Floor 27, New York, NY 10038 (**IAVI**); and

(2) **THERACLONE SCIENCES, INC.** a biotechnology company with its principal offices located at 1124 Columbia Street, Suite 300, Seattle, WA 98104 (**Theraclone**).

IAVI and Theraclone are each a **Party** and together the **Parties**.

**RECITALS**

WHEREAS, IAVI and Theraclone entered into a Research Collaboration Agreement dated July 1, 2009 (the **Agreement**); and

WHEREAS, the Parties wish to amend the payments due and the Scope of Work under the Agreement.

**IT IS AGREED AS FOLLOWS:**

**1. Definitions**

Unless otherwise provided herein, all defined terms used in this Amendment No. 1 will have the same meaning as in the Agreement.

**2. Amendment of Section 3 (Fixed Price and Payment)**

Sections 3(a), (b) and (c) (Fixed Price and Payment) of the Agreement are hereby deleted and replaced as follows:

"(a) The total fixed price for the performance of activities covered in the Scope of Work by Theraclone is [***] (the **Total Fixed Price**).

***Confidential Treatment Requested.**

(b) Subject to paragraph (c) below, the Total Fixed Price will be payable in the following, non-refundable installments:

(i) [***] on each of the Effective Date, [***]; and

(ii) [***] on or before [***]; and

(iii) [***] on or before [***].

(c) The payment of each installment of the Total Fixed Price (after the initial payment on the Effective Date) is guaranteed subject to (i) the receipt by IAVI of an invoice for such payment and (ii) the delivery of the quarterly report for such quarter (as referenced in Section 6 below) reflecting acceptable performance of the Scope of Work for such quarterly period, each on the following dates: [***].

In the event that IAVI is not satisfied with the performance of the Scope of Work for any quarterly period, then IAVI must notify Theraclone within 15 days of receipt of such quarterly report and provide reasonably detailed reasons for its lack of satisfaction. In the event that IAVI does not so notify Theraclone within such 15 day period, then IAVI will be deemed to be satisfied."

**3. Amendment of the Scope of Work**

The Scope of Work attached to the Agreement is hereby deleted and replaced with the Scope of Work in Attachment I annexed hereto.

**4. Full Force and Effect**

Except as specifically modified or amended in this Amendment, the Agreement will remain in full force and effect. No oral promise, covenant or representation of any character or nature has been made to induce either Party to enter into this Amendment. No provision of this Amendment may be modified or amended except expressly in a writing signed by both Parties nor will any term be waived except expressly in a writing signed by the party charged therewith.

**5. Counterparts**

This Amendment may be executed in one or more counterparts, each of which together will be deemed original but all of which together will constitute one and the same document. A photocopy of the original signature of an authorized representative of a party will have the same validity as an original signature for the purpose of this Agreement.

***Confidential Treatment Requested.**

**6. Governing Law**

This Amendment will be governed by and construed in accordance with the laws of the State of New York, without giving effect to principles of conflicts of laws.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be duly executed by their authorized representatives.

**International AIDS Vaccine Initiative**

By /s/ Wayne Koff
Name: Wayne Koff
Title: Senior Vice President & CSO
Date: 12/6/10

**Theraclone Sciences, Inc.**

By /s/ Russ Hawkinson
Name: Russ Hawkinson
Title: CFO
Date: 11/30/2010

**ATTACHMENT I**

**SCOPE OF WORK**

[***]

***Confidential Treatment Requested.**

**Exhibit 10.69**

[***]Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

**AMENDMENT NO. 2**
**TO RESEARCH COLLABORATION AGREEMENT**

This Amendment No. 2 to the Research Collaboration Agreement (this **Amendment**) is dated as of December 3, 2012 (the **Effective Date**), between:

(1) **INTERNATIONAL AIDS VACCINE INITIATIVE**, a not-for-profit corporation with its new principal offices located at 125 Broad Street, Floor 9, New York, NY 10004 (**IAVI**); and

(2) **THERACLONE SCIENCES, INC.** a biotechnology company with its principal offices located at 1124 Columbia Street, Suite 300, Seattle, WA 98104 (**Theraclone**).

IAVI and Theraclone are each a **Party** and together the **Parties**.

**RECITALS**

WHEREAS, IAVI and Theraclone entered into a Research Collaboration Agreement dated July 1, 2009, and Amendment No.1 dated November 24, 2010 (the **Agreement**); and

WHEREAS, the Parties wish to amend the Total Fixed Price of the Agreement and the Scope of Work in this Amendment No. 2.

**IT IS AGREED AS FOLLOWS:**

**1. Definitions**

Unless otherwise provided herein, all defined terms used in this Amendment No. 2 will have the same meaning as in the Agreement.

**2. Amendment of Section 3 (Fixed Price and Payment)**

Sections 3 is amended to include the following modified or new language:

"(a) The total fixed price for the performance of activities covered in the Scope of Work by Theraclone through Amendment No.1 is [***] (the **Total Fixed Price**).

(f) Theraclone acknowledges that IAVI has fully paid for the completion of the original and Amendment No. 1 Scope of Work which included a 6th Protocol G donor deliverables which have not been delivered because of the absence of the an acceptable donor sample to initiate the work.

*** Confidential Treatment Requested.**

(g) The Parties agree to further modify the Agreement under this Amendment No. 2 to address a new Scope of Work as defined in the revised Attachment 1.

(h) The Fixed Price Amount for the revised Scope of Work for this Amendment No, 2 is [***]. Payment of the non-refundable, non-creditable amount of [***] will be made upon activation of the first donor sample as contemplated in Attachment 1 to this Amendment.

**3. Amendment of Compliance**

Section 7 of the Agreement are hereby deleted and replaced as follows:

"(a) Theraclone agrees to comply with all laws, statutes, rules, regulations, and guidelines promulgated by any governmental agency, instrumentality, authority, or regulatory body having jurisdiction over any matters relating to the Discovery Program, including those related to studies involving micro-organisms, animals, or human subjects.

(b) Theraclone acknowledges that it is familiar with the U.S. Executive Orders and laws that prohibit the provision of resources and support to individuals and organizations associated with terrorism and the terrorist related lists promulgated by the U.S. Government. Theraclone will use reasonable efforts to ensure that it does not support or promote violence, terrorist activity or related training, or money laundering.

(c) IAVI funded a portion of the original and Amendment No.1 Scope of Work with monies from the United States Agency for International Development (**USAID**). Therefore, the original and a portion of Amendment No.1 and a portion of Amendment No, 2 Scopes of Work will be administered in accordance with the USAID Standard Provisions incorporated as Attachment II to the Agreement, with the exception of the following provisions which do not apply to this Agreement as currently executed: 2, 3, 4, 12, 13, 14, 19, 20, 21, 24, 26 and 29. In the event the scope/nature of this Agreement changes, this exception may be modified as deemed required by the Parties. Effective September 13, 2011 IAVI will fund the Project Activities from the United States Agency for International Development (**USAID**) Cooperative Agreement No. AID-OAA-A-11-00020 and therefore, this Agreement will be administered in accordance with the USAID Standard Provisions incorporated as Attachment III to this Agreement, with the exception of the following provisions which do not apply to this Agreement as currently executed: 2, 3, 4, 12, 13, 14, 19, 20, 21, 24, 26 and 29. In the event the scope/nature of this Agreement changes, this exception may be modified as deemed required by the Parties."

(d) IAVI anticipates that it will fund a portion of the Scope of Work for, the Protocol C Donor Sample SOW in Attachment 1, for Amendment No. 2 with monies from a National Institute of Health (**NIH**) grant. Therefore, the Scope of Work for Amendment No. 2 will be administered in accordance with the NIH grant standard provisions, including reporting of inventions, incorporated as Attachment IV with the exception of the following provision which to not apply to this agreement as currently executed: 3,4,5,6, 16, 27.

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(e) In the event that IAVI utilizes monies originating from restricted sources other than USAID or an NIH grant to fund the Scope of Work, IAVI shall notify Theraclone and provide Theraclone with copies of any rules, regulations, and grant requirements applicable to the Scope of Work funded with such monies. Restricted monies compliance provisions will be incorporated as an amendment to this Agreement's terms and conditions only after IAVI and Theraclone discuss them in good faith and mutually agree upon the use of such funds for the Scope of Work. IAVI agrees that it shall inform Theraelone of any such restrictions that present the potential for material breach of this Agreement as soon as possible.

(f) For the avoidance of doubt, due to restrictions contained in the informed consents used to obtain the new biological specimens provided to Theraclone under this Agreement, those biological specimens can only be used for the field of HIV, i.e., prophylactic and/or therapeutic HIV/AIDS vaccines, related diagnostic tools and HIV/AIDS treatment. In compliance with US Department of Health and Human Services/Office of Human Research Protection guidance, IAVI will not under any circumstances provide Theraclone personal identifying information or the key to decipher the code for any biological specimen to reveal the identity of the donor.

(g) If Theraelone uses subcontractors to assist in the completion of the Scope of Work, Theraclone is responsible for ensuring that any such subcontractor complies with the terms and conditions of this Agreement and the Scope of Work."

**4. <u>Amendment of Expiration or Termination</u>**

Section 8 of the Agreement is hereby deleted and replaced as follows:

"(a) IAVI may terminate this Agreement immediately after providing Theraclone with sixty (60) days prior written notice if (i) IAVI is not reasonably satisfied with Theraclone's diligence in performing the Scope of Work, or (ii) Theraclone fails to comply with any material term or condition of this Agreement, provided that such failure in performance or non-compliance is not cured within such sixty (60) day period. IAVI also reserves the right to withhold funds or terminate this Agreement if significant changes in scientific staffing at Theraclone occur that IAVI believes may jeopardize the Discovery Program.

(b) Theraclone may terminate this Agreement immediately after providing IAVI with sixty (60) days prior written notice of such failure to comply with any material term or condition of this Agreement, provided that such non-compliance is not cured within such sixty (60) day period.

(c) Upon expiration or termination of this Agreement, and upon (i) IAVI's request, Theraclone shall either destroy or return to IAVI all IAVI Materials, and (ii) Theraclone's request, IAVI shall either destroy or return to Theraclone all Theraclone Materials (for clarification, Theraclone Materials do not include Program Inventions and Program Deliverables (as set forth in the Scope of Work)).

(d) Upon the termination of the Agreement, Sections 6, and 8(c) through 17 shall survive any termination.

**5. Amendment of the Scope of Work**

The Scope of Work as amended in Amendment No. 1 shall be amended to include Attachment 1 which is attached to this Amendment.

**6. Full Force and Effect**

Except as specifically modified or amended in this Amendment, the Agreement will remain in full force and effect. No oral promise, covenant or representation of any character or nature has been made to induce either Party to enter into this Amendment. No provision of this Amendment may be modified or amended except expressly in a writing signed by both Parties nor will any term be waived except expressly in a writing signed by the party charged therewith.

**7. Counterparts**

This Amendment may be executed in one or more counterparts, each of which together will be deemed original but all of which together will constitute one and the same document. A photocopy of the original signature of an authorized representative of a party will have the same validity as an original signature for the purpose of this Agreement.

**8. Governing Law**

This Amendment will be governed by and construed in accordance with the laws of the State of New York, without giving effect to principles of conflicts of laws.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be duly executed by their authorized representatives.

**International AIDS Vaccine Initiative**

By /s/ Wayne Koff
Name: Wayne Koff
Title: Senior Vice President & CSO
Date: 12-3-12

**Theraclone Sciences, Inc.**

By /s/ Russ Hawkinson
Name: Russ Hawkinson
Title: CFO
Date: 12/11/12

**ATTACHMENT 1 – Amendment No. 2**

**SCOPE OF WORK**

[***]

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**ATTACHMENT III**
**Supplementary Provisions:**
**Standard USAID Requirements**

Contractor shall comply with the standard USAID requirements specified in this Appendix. The term "Contractor" shall also mean "Recipient" or "Grantee" and the term "Agreement" shall also mean "Contract", "Award" or "Grant" for the purposes of these requirements.

1. Applicability of 22 CFR 226
2. Reimbursable Costs
3. Indirect Costs
4. Accounting Systems and Records
5. Payment Advances and Refunds
6. Debarment
7. Probity
8. Nonliability and Disclaimers
9. Procurement and Eligibility Rules of Goods and Services
10. Capital Expenditures
11. Travel and Transportation
12. Human Subjects Research
13. Animal Welfare
14. Worker's Compensation Insurance
15. Nondiscrimination
16. Real Property
17. Clean Air/Water
18. Publications and Media Releases
19. Investment Promotion
20. Organizations Eligible for Assistance
21. Condoms
22. Prohibition on the Promotion or Advocacy of the Legalization or Practice of Prostitution or Sex Trafficking
23. Equal Protection of the Laws for Faith-Based and Community Organizations
24. Voluntary Population Planning Activities
25. Participant Training
26. Reporting of Foreign Taxes
27. Drug Free Workplace
28. USAID Disability Policy
29. Foreign Government Delegations to International Conferences
30. Marking under USAID Funded Assistance
31. Universal Identifier
32. Reporting Sub-Awards and Executive Compensation
33. Trafficking in Persons
34. Prohibition of Assistance to Drug Traffickers
35. Byrd Anti-Lobbying Amendment

The following are the principal standard federal requirements applicable to the performance of both parties' responsibilities under this Agreement (in addition and without prejudice to the other provisions of this Agreement):

(1) Applicability of 22 CFR Part 226. *This provision is only applicable to agreements and subagreements awarded to U.S. organizations.* All provisions of 22 CFR Part 226 are applicable to this Agreement.

(2) Reimbursable Costs. *This Provision is only applicable to cost reimbursement contracts.* To be reimbursable under this Agreement, costs must comply with the applicable cost principles. For educational institutions, use OMB Circular A-21; for all other non-profit organizations, use OMB Circular A-122; and for profit making firms, use Federal Acquisition Regulation 31.2 (see below). Requirements include the following, without limitation: direct costs must be necessary and incurred specifically for the Services; verifiable from the books and records of Contractor, as applicable, and supported by source documentation; allocable to this Agreement; reasonable in nature and amount; and allowable (i.e. conform to the provisions and limitations of this Agreement). To facilitate monitoring of charges under this Agreement, once each year, IAVI may provide Contractor with a USAID compliance form which Contractor agrees to fill out completely and accurately and return promptly to IAVI for review and consultation as appropriate.

(3) Indirect Costs. *This Provision is only applicable to cost reimbursement contracts.* Unless predetermined indirect cost rates are included in the approved budget for this Agreement (or each Task Order, when applicable), funding from USAID will only be used for reimbursable direct costs.

(4) Accounting Systems, Records and Audits. *This Provision is only applicable to cost reimbursement contracts.* Contractor shall maintain books, records, documents and other evidence in accordance with generally accepted and recognized accounting procedures. Contractor shall preserve and make available its accounting records and documents for examination and audit by IAVI, USAID and the Comptroller General of the United States, or any of their duly authorized representatives: (a) until the expiration of three years from the termination of this Agreement; (b) for such longer period, if any, as is required to complete an audit to resolve all questions concerning expenditures unless written approval has been obtained from USAID to dispose of the records; and (c) if any litigation, claim, or audit is started before the expiration of the three year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved. Contractor agrees to make available any further information requested by either IAVI or USAID with respect to any questions arising as a result of the aforementioned audit. U.S. organizations are also subject to the audit requirements of 22 CFR 226.26 (Non-Federal Audits). Non-U.S. organizations may be subject to annual audit in accordance with the "Guidelines for Financial Audits Contracted by Foreign Recipients" issued by the USAID Inspector General.

(5) Payment Advances and Refunds. If Contractor receives advance payments under this Agreement, Contractor shall maintain advances in interest bearing accounts unless: 1) Contractor receives less than $120,000 in U.S. Government awards per year; or 2) the best interest bearing account would not be expected to earn more than $250 in interest each year; or 3) the bank would require an unreasonable average or minimum balance so as to make it impractical to do so. Interest earned in excess of $250 per year must be refunded to IAVI. In addition, funds advanced to Contractor but not expended by the end of this Agreement or not expended in accordance with the terms of this Agreement must be refunded to IAVI.

(6) Debarment. Contractor certifies that neither it nor its principals is presently excluded or disqualified or proposed for exclusion or disqualification from participation in this Agreement by any U.S. Federal department or agency (see the U.S. Government's Excluded Parties List at http://epls.arnet.gov). Furthermore, Contractor agrees that it will not knowingly enter into a subcontract or subaward with a disqualified or excluded party on this list. Contractor agrees to notify IAVI immediately upon learning that it or any of its principals: 1) are presently excluded or disqualified from covered transactions by any Federal department or agency; 2) have been indicted or otherwise criminally or civilly charged, convicted of or had a civil judgment rendered against them for commission of any of the acts listed in the USAID Standard Provision entitled "Debarment, Suspension, and other Responsibility Matters"; or 3) have had one or more public transactions (with local, State or the Federal governments) terminated for cause or default within the preceding three years. Contractor shall include this provision in any subcontracts or subawards under this Agreement.

(7) Probity. Contractor represents and warrants that (i) to the best of its knowledge and belief, no IAVI employee, officer, or agent, or member of his/her immediate family, his or her partner, or an organization which is about to employ any of the foregoing, has a financial interest in Contractor; and (ii) no officer, employee or agent of IAVI has solicited or accepted gratuities, favors, or anything of monetary value from Contractor.

(b) U.S. Executive Orders and U.S. law prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of Contractor to ensure compliance with these Executive Orders and laws in the conduct of its own activities. Contractor is required to obtain the updated lists at the time of procurement of goods or services. The updated lists are available at: http://www.treas.gov/offices/enforcement/ofac/sdn/t11sdn.pdf and http://www.un.org/sc/committees/1267/consolist.shtml. This provision must be included in all contracts, subcontracts or subawards awarded hereunder.

(8) Nonliability and Disclaimers. Contractor agrees that USAID will not assume liability for third party claims for damages arising out of this Agreement and that Contractor will have no relationship with USAID solely because of this Agreement.

(9) Procurement and Eligibility Rules of Goods and Services. (a) Procurements of goods and services pursuant to this Agreement shall be conducted in accordance with sound commercial practices and the USAID Standard Provisions "USAID Eligibility Rules for Goods and Services (April 1998)" and shall be supported by original invoices or other appropriate supporting documentation. Furthermore, procurement by U.S. organizations should be in accordance with the procurement procedures outlined in 22 CFR 226.44, and procurement by non-U.S. organizations should be in accordance with the Standard Provisions for Non-U.S. Organizations entitled "Procurement of Goods and Services (October 1998)". The text of these policies is available on USAID's website (see below).

(b) Goods on USAID's list of ineligible items (military equipment, surveillance equipment, equipment to support police or law enforcement activities, abortion equipment, luxury goods, gambling equipment, and weather modification equipment) may not be financed. Goods on USAID's list of restricted items (agricultural equipment, pesticides, fertilizers, U.S. government-owned excess property, used equipment, pharmaceuticals, including HIV Test kits, motor vehicles and motor bikes) may only be financed with IAVI's prior written approval.

(c) Other Goods and services may be procured from any country except the following Foreign Policy Restricted Countries: Cuba, Iran, Iraq, Laos, North Korea, or Syria. Goods may not be procured from firms on the U.S. government's Excluded Parties List (see "http://epls.arnet.gov"). For purposes of the preceding sentence, "procured from" includes supplier nationality (for goods and services) and the source and origin of the goods.

(10) Capital Expenditures.

(a) Unless indicated otherwise in the schedule of this Agreement, title to all equipment purchased with funds provided hereunder shall belong to IAVI.

(b) Contractor must obtain IAVI's prior written approval before: (i) purchasing capital equipment or (ii) incurring costs for renovations or other material improvements to land, buildings or equipment.

(11) Travel and Transportation. *This provision is applicable when international travel is authorized under this Agreement.* Unless included in the approved budget for this Agreement, no funds may be expended for international travel without IAVI's written approval. Expenditures of funds provided under this Agreement (i) for transportation of goods or travel of personnel overseas shall be subject to the USAID Standard Provision, "International Air Travel and Transportation (JUNE 1999)," and (ii) for shipments of goods by sea shall be subject to the USAID Standard Provision, "Ocean Shipment of Goods (JUNE 1999)." U.S. flag carriers must be used to the extent service by such carriers is available. The text of these provisions is available on USAID's website (see below). This provision will be included in all subawards and contracts hereunder which require international travel and transportation.

(12) Human Subjects Research. *This provision is applicable when human subjects research is conducted pursuant to this Agreement.* Contractor agrees to comply with USAID policies, to the extent applicable, including without limitation the Common Federal Policy for the Protection of Human Subjects (implemented by USAID at 22 CFR Part 225); the "Procedures for Protection of Human Subjects in Research Supported by USAID"; and the USAID Standard Provision entitled "Protection of the Individual as a Research Subject (APRIL 1998)." The texts of these policies are available on USAID's website (see below.)

(13) Animal Welfare. *This provision is applicable when research involving laboratory animals is conducted pursuant to this Agreement.* Contractor agrees to work with IAVI to ensure compliance with USAID policies to the extent applicable, as referenced in the USAID Standard Provision entitled "Care of Laboratory Animals (MARCH 2004)". The text of this policy is available on USAID's website (see below).

(14) Worker's Compensation Insurance. *The provision is applicable to U.S. based contractors who will perform work hereunder outside the United States.* Pursuant to 22 CFR Part 226, Appendix A, Contractor agrees to provide worker's compensation insurance to all persons employed outside the U.S. who are U.S. citizens or residents. Contractor agrees to provide insurance required by applicable law to all persons employed outside the U.S. who are not U.S. citizens or residents

(15) Nondiscrimination. *This provision is applicable when work under this Agreement will be performed in the United States or when employees are recruited in the United States.* No U.S. citizen or legal resident of the United States will be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any activity funded under this Agreement on the basis of race, color, national origin, age, handicap or sex. Contractor will comply with E.O. 11246, "Equal Employment Opportunity," as amended by E.O. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and as supplemented by regulations at 41 CFR Chapter 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," to the extent required by the foregoing.

(16) Real Property. Funding may not be used under this Agreement to construct, alter, repair or improve real property without IAVI's advance written approval, which [approval] may be subject to additional USAID requirements.

(17) Clean Air/Water. *This provision is applicable to contracts in excess of $100,000 to be performed in the United States.* Contractor agrees to comply with all applicable standards, orders or regulations pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.) Violations are to be reported to IAVI.

(18) Publications and Media Releases. (a) Contractor shall provide to IAVI, for submission to USAID, one hard copy and one electronic copy in PDF form, if available, of all published works developed under this Agreement. Each document submitted should contain essential bibliographic elements such as 1) descriptive title; 2) author(s) name; 3) date of publication; 4) and a statement that this publication was funded in whole or in part by the International AIDS Vaccine Initiative under Cooperative Agreement No. AID-OAA-A-11-00020 awarded by the U.S. Agency for International Development (Office of Health/AIDS, Bureau of Global Health, S.O. 4100201).

(b) In the event funds provided under this Agreement are used to fund the cost of publishing, any related profits or royalties realized by Contractor (up to the amount of these publishing costs) should be credited back to this Agreement.

(c) Except as otherwise provided elsewhere in this Agreement, the author or Contractor is free to copyright any books, publications or copyrightable materials development under this Agreement; however USAID reserves a royalty-free nonexclusive and revocable right to reproduce, publish, or otherwise use, and to authorize others to use, the work for U.S. government purposes.

(d) Any "public communications", as defined in 22 CFR 226.2, funded under this Agreement in which the content has not been approved by USAID, must contain the following disclaimer:

> *"This study/report/audio/visual/other information/media project is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of [insert Contractor's name] and do not necessarily reflect the views of USAID or the United States Government".*

(19) Investment Promotion. Except as may be specifically set forth in this Agreement or as IAVI may otherwise approve in advance, no funds or other support provided under this Agreement may be used by Contractor for an activity that involves investment promotion in a foreign country. The Contractor must ensure that its employees and subrecipients and contractors providing investment promotion services are made aware of these restrictions and include this clause in all subagreements and contracts.

(20) Organizations Eligible for Assistance. If Contractor is otherwise eligible to receive funds under this Agreement to prevent, treat, or monitor HIV/AIDS, Contractor shall not be required to endorse or utilize a multisectoral approach to combatting HIV/AIDS or to endorse, utilize, or participate in a prevention method or treatment program to which Contractor has a religious or moral objection. The Contractor shall include this provision in any subcontracts or subawards under this Agreement.

(21) Condoms. If information is provided under this Agreement about the use of condoms, the information shall be medically accurate and shall include the public health benefits and failure rates of such use and shall be consistent with USAID's fact sheet entitled "USAID: HIV/STI Prevention and Condoms". This fact sheet may be accessed at: http://www.usaid.gov/our work/global health/aids/TechAreas/prevention/condomfactshe et.html."

(22) Prohibition on the Promotion or Advocacy of the Legalization or Practice of Prostitution or Sex Trafficking. None of the funds made available under this Agreement may be used by Contractor to promote or advocate the legalization or practice of prostitution or sex trafficking. The funds made available under this Agreement may be used by Contractor to provide palliative care, treatment, or post-exposure pharmaceutical prophylaxis, and necessary pharmaceuticals and commodities, including test kits, condoms, and, when proven effective, microbicides, if applicable under this Agreement. For the purposes of this provision, "sex trafficking" means the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act; "commercial sex act" means any sex act on account of which anything of value is given to or received by any person and; "prostitution" means procuring or providing any commercial sex act and the "practice of prostitution" has the same meaning. The Contractor shall include this provision in any subcontracts or subawards under this Agreement.

(23) Equal Protection of the Laws for Faith-Based and Community Organizations. (a) In providing services supported by this Agreement or in its outreach activities related to these services, Contractor may not discriminate against any beneficiary or potential beneficiary on the basis of religion, a religious belief, a refusal to hold a religious belief, or a refusal to actively participate in a religious practice.

(b) If Contractor engages in inherently religious activities, these activities must occur at a different time and/or location from any programs or services funded by this Agreement and participation by beneficiaries in any such inherently religious activities must be voluntary. The Contractor must not engage in any inherently religious activities, such as worship, religious instruction or proselytization as part of the programs or services funded under this Agreement.

(c) In awarding subagreements or contracts under this Agreement, Contractor should not discriminate against a faith-based organization in selecting qualified organizations or impose additional requirements when awarding to a religious organization.

(d) When Contractor is a religious organization, Contractor:

(1) Retains its independence and may continue to carry out its mission, including the definition, practice, and expression of its religious beliefs, provided that it does not use funds from this Agreement to support any inherently religious activities, such as worship, religious instruction, or proselytization.

(2) Retains its authority over its internal governance and may retain religious terms in its organization's name, select its board members on a religious basis, and include religious references in its organization's mission statements and other governing documents.

(3) Retains its exemption from the Federal prohibition on employment discrimination on the basis of religion, set forth in Sec. 702(a) of the Civil Rights Act of 1964, 42 U.S.C. 2000e-1.

(4) May use space in its facilities, without removing religious art, icons, scriptures, or other religious symbols.

(24) Voluntary Population Planning Activities — Mandatory Requirements. (a) No funds under this Agreement may be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any individual to practice sterilization.

(b) No funds under this Agreement made be used to finance, support or be attributed to any activities whatsoever related to the performance of abortion as a method of family planning, including paying incentives to coerce or motive individuals to have abortions. The term "motivate" as it relates to family planning assistance shall not be construed to prohibit the provision, consistent with local law, of information or counseling about all pregnancy options.

(c) No funds under this Agreement may be used for biomedical research which relates in whole or in part to the methods or performance of abortions or involuntary sterilizations as a means of family planning. This does not preclude epidemiological or descriptive research to assess the incidence, extent or consequences of abortions.

(d) When giving guidance and information regarding family planning the Contractor shall provide a broad range of family planning methods and services available in the country in which the activity is conducted or shall provide information to such individuals regarding where such methods and services may be obtained. The Contractor shall notify IAVI immediately if it learns about an alleged violation of the terms of this Provision 24(d).

(25) Participant Training. *This provision is applicable to this Agreement if training will be provided to any non-U.S. individual outside of that individual's home country.* Participant training under this Agreement shall comply with the policies established in USAID ADS Chapter 253.

(26) Reporting of Foreign Taxes. Quarterly financial reports or other requests for reimbursement in accordance with the payment terms of this Agreement should include the amount of any value added tax (VAT) and custom duties paid to the foreign government of the country receiving assistance hereunder on commodity purchase transactions valued at $500 or more financed under this Agreement as well as any reimbursements of such taxes that may be received during the period of this Agreement. “Commodity” means any material, article, supply, goods or equipment.

(27) Drug Free Workplace. Within 30 days after either the effective date of this Agreement, if awarded after September 13, 2011 or of the effective date of the amendment incorporating this provision if this Agreement was awarded prior to September 13, 2011, Contractor agrees to publish a drug-free workplace statement and provide a copy to each employee who will be engaged in performance of this Agreement. The statement must be in accordance with the USAID Standard Provision entitled “Drug-Free Workplace (JAN 2004)”. Contractor agrees to both immediately notify IAVI if an employee working hereunder is convicted of a drug violation in the workplace and to either terminate the employee or take other appropriate action in accordance with the above- referenced Standard Provision.

(28) USAID Disability Policy. Contractor shall not discriminate against people with disabilities in the implementation of the program funded by this Agreement and shall make every effort to comply with the objectives of the USAID Disability Policy to the extent that it can do so within the scope of the program. The full text of the policy can be found at http://www.usaid.gov/about/disability/DISABPOL.FIN.html.

(29) Foreign Government Delegations to International Conferences. Funds in this Agreement may not be used to finance any travel costs or conferences fees for any member of a foreign government’s delegation to an international conference sponsored by a public international organization, except as provided in USAID ADS Mandatory Reference “Guidance on Funding Foreign Government Delegations to International Conferences” or as approved by USAID.

(30) Marking under USAID Funded Assistance. As a condition of receipt of this Agreement,. Contractor must mark all overseas programs, projects, activities, public communications and commodities in accordance with the attached IAVI Marking Plan. In doing so, marking with either the IAVI logo or the USAID logo (as stipulated) should be of a size and prominence equivalent to or greater than the logos of Contractor, Contractor’s other donors, or third parties.

(31) Universal Identifier. *This Provision is only applicable to sub-awards. If applicable, Contractor will be requested to provide this information prior to the award of an agreement.* The Contractor is required to have a Data Universal Numbering System (DUNS) Number prior to the award of an Agreement by IAVI. A Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at http://fedgov.dnb.com/webform). IAVI is not authorized to enter into an Agreement with any Contractor that has not provided IAVI with the Contractor’s DUNS Number.

(32) Reporting Sub-Awards and Executive Compensation. *This Provision is only applicable to sub-awards. If applicable, Contractor will be requested to provide this information prior to the award of an agreement.* This provision is only applicable to agreements equal to [***] or more. IAVI must report agreements in excess of [***] on the Federal Funding Accountability and Transparency Act (FFATA) Sub-Award Reporting System (FSRS). The information that must be reported for each agreement includes information regarding the Contractor's five most highly compensated executives. As a result the Contractor must report the names, title and compensation of its five most highly compensated executives to IAVI, if (i) in the Contractor's preceding fiscal year the Contractor received: (a) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and (b) [***] or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and (ii) the public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a),78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm). The Contractor will be requested to provide this information to IAVI by completing a FFATA Sub-Award Reporting Certification Form.

(33) Trafficking in Persons. The Contractor and the Contractor's employees, subcontractors and the subcontractor's employees may not: (a) Engage in severe forms of trafficking in persons during the period of time that the Agreement is in effect; (b) Procure a commercial sex act during the period of time that the Agreement is in effect; and (c) Use forced labor in the performance of the Agreement. IAVI shall have the right to unilaterally terminate this Agreement if the Contractor, the Contractor's employees, subcontractors or subcontractor's employees is determined to have violated any of the prohibitions of this Provision. The Contractor must inform IAVI immediately of any information the Contractor receives from any source alleging a violation of any prohibitions of this Provision. The Contractor shall include this provision in any subcontracts or subawards under this Agreement.

Definitions: (a) "Employee" means either: (i) An individual employed by you or a subrecipient who is engaged in the performance of the Agreement; or (ii) Another person engaged in the performance of the Agreement and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements; (b) "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery; (c) "Severe forms of trafficking in persons,'" "commercial sex act," and "coercion" have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

***Confidential Treatment Requested**

(34) Prohibition of Assistance to Drug Traffickers. IAVI reserves the right to terminate this Agreement or take other appropriate measures if the Contractor or a key individual of the Contractor is found to have been convicted of a narcotic offense or to have been engaged in drug trafficking as defied in 22 CFR 140.

(35) Byrd Anti-Lobbying Amendment. Pursuant to 22 CFR Part 227, Contractor agrees to: (a) sign and submit to IAVI (i) upon signing of this Agreement, the required certification that it has not used and will not use federal appropriated funds to influence various government officials in making certain federal awards, using the "Certification Regarding Lobbying" form, and (ii) the "Disclosure of Lobbying Activities Form", if it uses or has agreed to use funds other than federal appropriated funds for this purpose; (b) sign and submit to IAVI at the end of each calendar quarter the Standard Form LLL, Disclosure of Lobbying Activities Form, if (i) it uses or has agreed to use funds other than federal appropriated funds and/or (ii) an event occurs that materially affects (as defined in 22 CFR Part 227) the accuracy of any information contained in any Disclosure Form previously submitted by the Contractor to IAVI. This provision must be included in all contracts, subcontracts or sub-awards exceeding $100,000 awarded hereunder.

The text of the Standard Provisions and other regulations that are referenced above is available at the following websites. IAVI will provide a copy upon request.

22 CFR Part 226 - http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title22/22cfr226_main_02.tpl
OMB Circular A-122 - http ://www.whitehouse.gov/omb/circulars/a122/a122_2004.html
OMB Circular A-21 - http://www.whitehouse.gov/omb/circulars/a021/a21_2004.html
FAR Part 31.2 - https://www.acquisition.gov/far/html/Subpart%2031_2.html
USAID Standard Provisions for U.S. Organizations - http://www.usaid.gov/policy/ads/300/303maa.pdf
USAID Standard Provisions for non-U.S. Organizations - http://www.usaid.gov/policy/ads/300/303mab.pdf

**IAVI Marking Plan**
**under USAID Cooperative Agreement AID-OAA-A-11-00020**

As an international organization, IAVI's continued success in accelerating the development of promising HIV vaccine candidates relies upon long-term engagement with our diverse portfolio of contributors and other stakeholders. This fact is reflected in our Marking Plan. Under this Plan, IAVI had developed a multi-donor logo which acknowledges all of IAVI's governmental and largest private sector donors. This logo will be applied universally, both domestically and outside the U.S., to mark items such as physical infrastructure, workshops, and program communications; however, the USAID-logo sticker by itself will be used to mark equipment procured entirely with USAID funds. For example, when appropriate, items would be marked as follows:

- Publications and other public communications marked with IAVI multi-donor logo in a visible location such as the front or back cover
- Invitation letterhead, report or cover marked with IAVI multi-donor logo in a visible location such as in the body text or footnoted
- Equipment marked with a USAID logo sticker in a visible location
- Infrastructure marked with a IAVI multi-donor plaque in a visible location

Marking with either the IAVI logo or the USAID logo (as stipulated above) should be of a size and prominence equivalent to or greater than the logos of the contractor/recipient, other donors, or other third parties. The Marking Plan Table which follows indicates the items and activities to be marked and those which are exempt from marking.

The USA ID logo stickers (for equipment) can be either obtained from IAVI or ordered directly from vendors listed on the USAID website (http://www.usaid.gov/branding/suppliers.html). Three versions of the logo below are available to allow for flexibility of usage. Upon request, an electronic file of all three versions of the IAVI multi-donor logo will be sent by IAVI to the contractor/recipient.

**IAVI MARKING TABLE**

| ACTIVITY | TO BE MARKED | NOT TO BE MARKED (EXEMPT)* |
|---|---|---|
| **External Publications** | Informational, educational and communication materials for use by staff, partners and other stakeholders on AIDS vaccines and related topics (includes leaflets & brochures) | Reports and publications done in partnership with governments |
| | Research working papers, policy briefs, and discussion papers | |
| | | |
| **Tools and Operational Documents** | Tool kit for needs assessment/program planning for community involvement | |
| | Community advisory board(s) guidance documents | |
| | | |
| **Reports** | Reports of select social science research projects on issues relevant to clinical research in developing countries or reports from needs assessment and monitoring and evaluation efforts | Reports on programs involving governmental policies and programs |
| | | |
| **Workshops, technical meetings, training programs, seminars, consultations** | Invitation letters, informational handouts, briefs, reports, and meeting signage | Invitation letters, informational handouts, briefs, reports, and meeting signage for Policy Makers Workshops covering national policy issues |
| | | Meetings and trainings implemented in partnership with the Government of India |
| | | |
| **Human Immunology Laboratory (Imperial College; trial sites and laboratories in Africa and India; biotechnology firms and pharmaceuticals outside the U.S.)** | Buildings/facilities | Internal Documents (e.g. Good Clinical Laboratory Practice guidelines, standard operating procedures guidelines, audits, validation study reports, clinical trial study reports, etc.) |
| | Laboratory and office equipment unless item is too small or marking would impair functionality | Consumables and laboratory supplies such as scissors, forceps, test tubes, vaccine vials, pipettes |
| | Shipping containers packed with equipment or supplies to the Africa or India IAVI sites unless marking would jeopardize the integrity of the contents | Shipping clinical samples from site to London or Johannesburg core labs |

* If IAVI determines that these items/activities are no longer exempt, IAVI will notify the subawardee or contractor in writing that these items/activities should also be marked with the IAVI multi-donor logo (or the USAID logo for equipment).

**ATTACHMENT IV**

**NIH Standard Provisions**

Theraclone shall comply with the standard NIH requirements specified in this Attachment. Throughout these provisions, Theraclone shall be defined as Subawardee.

1. General Provisions

   This Agreement is subject to the terms and conditions incorporated either directly or by reference in the following:

   a. 45 CFR Part 74; and

   b. The NIH Grants Policy Statement, including addenda in effect as of the beginning date of the budget period.

2. Prior Approval

   As outlined in the administrative requirements of the NIH Grants Policy Statement, NIH prior written approval may be required before IAVI makes certain budget modifications or undertakes particular activities. As a result, Subawardee agrees to obtain written prior approval from IAVI for the following activities and/or expenditures under this Agreement:

   - § Change in scope
   - § Change in key personnel
   - § Carryover of unobligated balances
   - § Deviation from Agreement terms and conditions
   - § Transfer of the Performance of Substantive Programmatic Work to a Third Party by Means of a Consortium Agreement
   - § Change in the specific aims approved at the time of award
   - § Substitution of one animal model for another
   - § Any change from the approved use of animals or human subjects
   - § Shift of the research emphasis from one disease area to another
   - § A clinical hold by FDA under a study involving an IND or an IDE
   - § Application of a new technology, e.g., changing assays from those approved to a different type of assay
   - § Significant rebudgeting, whether or not the particular expenditure(s) require prior approval. Significant rebudgeting occurs when expenditures in a single direct cost budget category deviate (increase or decrease) from the categorical commitment level established for the budget period by more than 25 percent of the total costs awarded. The base used for determining significant rebudgeting excludes the effects of prior-year carryover balances but includes competing and non-competing supplements.
   - § Incurrence of research patient care costs if costs in that category were not previously approved by NTH or if a grantee desires to rebudget additional funds beyond those approved into or rebudget funds out of the research patient care category

3. Reimbursable Costs

    a. To be reimbursable under this Agreement, costs must comply with the applicable cost principles. For state, local or federally-recognized Indian tribal governments use OMB Circular A-87; for institutions of higher education, use OMB Circular A-21; for non-profit organizations, use OMB Circular A-122; for hospitals, use Appendix E of 45 CFR Part 74; and for profit making firms, Federal Acquisition Regulation (FAR) at 48 CFR part 31, except that independent research and development costs are unallowable.

    b. Requirements include the following, without limitation: direct costs must be necessary and incurred specifically for the Project Activities; verifiable from the books and records of Subawardee, as applicable, and supported by source documentation; allocable to this Agreement; reasonable in nature and amount; and allowable (i.e. conform to the provisions and limitations of this Agreement).

4. Accounting Systems, Records and Audits

    Subawardee shall maintain books, records, documents and other evidence in accordance with generally accepted accounting procedures. Subawardee shall preserve and make available its accounting records and documents for examination and audit by, NIH or the Comptroller General of the United States, or any of their duly authorized representatives: (a) until the expiration of three years from the termination of this Agreement; (b) for such longer period, if any, as is required to complete an audit to resolve all questions concerning expenditures unless written approval has been obtained from NTH to dispose of the records; and (c) if any litigation, claim, or audit is started before the expiration of the three year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved. Subawardee agrees to make available any further information requested by either IAVI or NIH with respect to any questions arising as a result of the aforementioned audit. Such audit shall be at no cost to Theraclone.

5. Procurement

    Procurements of goods and services pursuant to this Agreement shall be conducted in accordance with sound commercial practices and 45 CFR Part 74 or 45 CFR Part 92 (as applicable) and the NIH Grants Policy Statement and shall be supported by original invoices or other appropriate supporting documentation.

6. Equipment

    Subawardee must obtain IAVI’s prior written approval before: (i) purchasing equipment or (ii) incurring costs for renovations or other material improvements to land, buildings or equipment. Title to any equipment purchased by the Subawardee under this Agreement will be, unless otherwise agreed in writing by IAV1, held by IAVI subject to the conditions of 45 CFR Part 74.34. The Equipment will be used as determined by the Parties under the terms of the SOW during the term of this Agreement and thereafter as determined by IAVI. Upon the termination or expiration of this Agreement, IAVI may, at its sole discretion, grant Subawardee title to, or retain title to, any Equipment and if IAVI does not grant Subawardee title, Subawardee will promptly return such Equipment (at IAVI’s expense) to IAVI. Subawardee will be responsible for the proper use and maintenance of any Equipment during the term of this Agreement.

7. Real Property

Funding may not be used under this Agreement to construct, alter, repair or improve real property without IAVI's advance written approval. This approval is subject to 45 CFR Part 74.32.

8. Publications and Media Releases

Subawardee will make the results and accomplishments of the Project Activities available to the research community and to the public at large. Subawardee shall provide to IAVI, for submission to NIH, one hard copy and one electronic copy in PDF form, if available, of all published works developed under this Agreement. Each publication, press release or other document that cites results from activities funded under this Agreement must include an acknowledgment of NIH grant support and disclaimer such as "The project described was supported by Award Number U19A1090970 from the National Institute of Allergy and Infectious Diseases. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Allergy and Infectious Diseases or the National Institutes of Health."

The Subawardee is required to comply with the NIH Public Access Policy. This includes submission to PubMed Central (AMC), upon acceptance for publication, an electronic version of a final peer-reviewed, manuscript resulting from research supported in whole or in part, with direct costs from National Institutes of Health. The author's final peer-reviewed manuscript is defined as the final version accepted for journal publication, and includes all modifications from the publishing peer review process. For additional information, please visit http://publicaccess.nih.gov/.

9. Copyright

a. Subawardee shall own the rights in data it generates from the Project Activities and any publications, data, or other copyrightable works developed under this Agreement may be copyrighted without NIH approval. Subawardee hereby grants NIH a royalty-free, nonexclusive, and irrevocable license for the Federal government to reproduce, publish, or otherwise use the material and to authorize others to do so for Federal purposes.

b. The disposition of royalties and other income earned from a copyrighted work is addressed on the NIH website http://grants.nih.gov/grants/policy/nihgps_2003/nihgps_part8.htm under "Administrative Requirements - Management Systems and Procedures - Program Income."

10. Sharing of Research Data

Subawardee will ensure the timely release and sharing of final research data from the Project Activities for use by other researchers. “Timely release and sharing” is defined as no later than the acceptance for publication of the main findings from the final data set. Data intended for broader use should be free of identifiers that would permit linkages to individual research participants and variables that could lead to deductive disclosure of the identity of individual subjects.

11. Sharing of Unique Research Resources

Subawardee will share any unique research resources developed under this Agreement in accordance with the *Principles and Guidelines for Recipients of NIH Research Grants and Contracts on Obtaining and Disseminating Biomedical Research Resources* (64 FR 72090, December 23, 1999), which is available on the NIH website (http://www.ott.nih.gov/policy/rt_guide_final.html). Upon the request of the NIH awarding office, Subawardee must also provide a copy of documents or a sample of any material developed under this Agreement to NIH. Subawardee will submit unique biological information, such as DNA sequences or crystallographic coordinates, to the appropriate data banks so that they can be made available to the broad scientific community.

12. Rights to Inventions

Rights to inventions made under this Agreement shall be determined in accordance with the standard Patent Rights clauses as specified in 37 CFR Part 401. The provisions of the Bayh-Dole Act of 1980, as implemented in 37 CFR Part 401, as amended by the Technology Transfer Commercialization Act of 2000 (P.L. 106-404) shall apply. [Need to Discuss]

13. Standards of Conduct

Subawardee must establish safeguards reflected in written standards of conduct, consistent with State and local laws, to prevent employees, consultants, members of governing bodies, and others who may be involved in Project Activities from using their positions for purposes that are, or give the appearance of being, motivated by a desire for private financial gain for themselves or others, such as those with whom they have family, business, or other ties, which cover, at a minimum, expected conduct in regard to financial interests, gifts, gratuities and favors, nepotism, and such other areas as political participation and bribery. A copy of these general standards of conduct must be made available to each of its officers, each of its employees and consultants working on the Project Activities, each member of the governing board, if applicable, and, upon request, to IAVI and the NIH. The NIH website http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPS_Part4.htm#_Toc54600064 provides additional information.

14. Financial Conflict of Interest

Subawardee must promote objectivity in research by establishing standards to ensure that the design, conduct and reporting of research funded under NIH-funded awards are not biased by a conflicting financial interest of an Investigator. Investigator is defined as the Principal Investigator and any other person who is responsible for the design, conduct, or reporting of NIH-funded research or proposed research, including the Investigator's spouse and dependent children. Subawardee must have a written administrative process to identify and manage financial conflict of interest and must inform Investigators of this process, the Investigators' responsibilities, as well as provide Investigator training on this process. Prior to expenditure of the funds awarded under this Agreement, the Subawardee must report to IAVI the existence of a conflicting interest and within 30 days of any new conflicting interests identified after the initial report. Subawardee must comply with these and all other aspects of 42 CFR Part 50, Subpart F. These requirements also apply to subgrantees, contractors, or collaborators engaged by the Awardee under this Agreement. The NIH website http://grants.nih.gov/grants/policy/coi/index.htm provides additional information. If Subawardee or any subgrantee, contractor, or collaborator engaged by the Subawardee under this Agreement does not have a Financial Conflict of Interest Policy in place that complies with 42 CFR Part 50, Subpart F, such Subawardee, subgrantee, contractor, or collaborator must follow IAVI's Research Conflict of Interest Policy for Investigators Involved in PHS Funded Research.

15. Research Misconduct

The Subawardee will inquire into and, if necessary, investigate and resolve promptly and fairly all instances of alleged or apparent research misconduct. Subawardee agrees to comply with 42 CFR Part 50, Subpart A, "Responsibilities for PHS Awardee and Applicant Institutions for Dealing With and Reporting Possible Misconduct in Science." The Subawardee certifies that it has established administrative policies as required by 42 CFR 50, Subpart A, and will comply with those policies and the requirements of the regulations. The regulations are available from the ORI on its home page (www.ori.dhhs.gov). The Subawardee will report promptly to IAVI any incident of alleged or apparent research misconduct that it judges as warranting investigation and must advise IAVI of any decision to initiate an investigation. The Subawardee agrees to promptly report issues involving potential criminal violations, such as misappropriation of funds awarded under this Agreement, to IAVI.

16. Human Subjects Research

a. Subawardee agrees to conduct human subjects research under this Agreement in compliance with 45 CFR Part 46 and the Standards for Privacy of Individually Identifiable Health Information outlined in the NIH Grants Policy Statement.

b. Subawardee certifies that it has an appropriate OHRP-approved assurance and IRB approval of the research consistent with 45 CFR Part 46 and that it will comply with NIH prior-approval requirements related to the addition of sites not included in the approved application. Subawardee certifies that all key personnel performing Project Activities under this Agreement have received training in the protection of human subjects.

17. Data and Safety Monitoring

    Subawardee agrees to comply with NIH requirements for data and safety monitoring outlined in the NIH Grants Policy Statement.

18. Investigational New Drug Applications/Investigational Device Exceptions

    If Project Activities under this Agreement involve INDs, drugs approved for a different indication, or experimental combinations of drugs, Subawardee agrees to comply with FDA's IND regulations, FDA's human subjects' protection requirements, and HHS's human subjects' requirements. As provided in the FDA regulations, an IND or IDE also may apply to biologics or devices. The FDA regulations are published in 21 CFR Parts 50 and 312.

19. Requirements for Inclusiveness in Research Design

    In accordance with the NIH Grants Policy Statement, Subawardee agrees that Project Activities under this Agreement will be as inclusive in design as possible to extend the validity of research findings and allow for enhancement of the health status of all population groups.

20. Inclusion of Women and Minorities as Subjects in Clinical Research

    Subawardee certifies that Project Activities under this Agreement involving human subjects of any age will comply with the NIH Policy and Guidelines on the Inclusion of Women and Minorities as Subjects in Clinical Research, implementing section 492B of the PHS Act. These guidelines require that women and members of minority groups and their subpopulations be included in Project Activities under this Agreement involving human subjects, unless a clear and compelling rationale and justification establishes, to the satisfaction of the NIH IC Director, that inclusion is inappropriate with respect to the health of the subjects, the purpose of the research, or other circumstances. Cost is not an acceptable reason for exclusion, except when the research would duplicate data already available from other sources. Women of childbearing potential should not be routinely excluded from participation in clinical research. The guidelines should be reviewed for policy concerning inclusion of these groups in all NIH-supported clinical trials. This policy applies to subjects of all ages.

21. Inclusion of Children as Subjects in Clinical Research

    a. Subawardee certifies that Project Activities under this Agreement involving human subjects will be performed in compliance with the NIH Policy Statement and this research must include children in the research design unless there are scientific or ethical reasons not to include them. For the purpose of addressing the NIH policy requirement for inclusion, a child is defined as an individual under the age of 21 years.

b. The inclusion of children as subjects in Project Activities under this Agreement must comply with all applicable provisions of pertinent Federal laws and regulations, including 45 CFR Part 46. Regulatory requirements in 45 CFR 46 Subpart D address HHS protections for children who participate in research. These requirements must be addressed when “children” (persons who, under the applicable law of the jurisdiction in which the research will be conducted, have not attained the legal age for consent to treatments or procedures involved in the research) are involved as subjects in research.

22. Human Embryo Research, Cloning, and Transplantation

a. Ban on Human Embryo Research and Cloning: In accordance with NIB policy, funds awarded under this Agreement may not be used to support human embryo research. Funds awarded under this Agreement may not be used for the creation of a human embryo for research purposes or for research in which a human embryo is destroyed, discarded, or knowingly subjected to risk of injury or death greater than that allowed for research on fetuses in utero under 45 CFR 46.204 and 46.207 and subsection 498(b) of the PHS Act. The term “human embryo” includes any organism not protected as a human subject under 45 CFR 46, as of the date of enactment of the governing appropriations act, that is derived by fertilization, parthenogenesis, cloning, or any other means from one or more human gametes or human diploid cells.

b. In addition to the statutory restrictions on human fetal research under subsection 498 (b) of the PHS Act, by Presidential memorandum of March 4, 1997, Subawardee is prohibited from using funds awarded under this Agreement for cloning of human beings.

c. Research on Human Fetal Tissue: Human fetal tissue is defined as tissue or cells obtained from a dead human embryo or fetus after a spontaneous or induced abortion or stillbirth. This definition does not include established human fetal cell lines. Research involving the transplantation of human fetal tissue must be conducted in accordance with applicable State and local laws as well as the following NIH guidance - NIH guidance for grantees conducting research on human fetal tissue and other information on the governing Federal statute, sections 498A and 498B of the PHS Act, 42 U.S.C. 289g-1 and 298g-2, is available on the NIH website at http://grants.nih.gov/grants/guide/notice-files/not93-235.html.

d. Research on Transplantation of Fetal Tissue: Subawardee will make available for audit by the HHS Secretary or designee, the physician statements and informed consents required by subsections 498A(b)(2) and (c) of the PHS Act or will ensure HHS access to those records, if maintained by an entity other than the Subawardee. This requirement is in addition to the requirements concerning human subjects in research.

e. In addition, FDA issued a letter on November 30, 2000, indicating that it has jurisdiction over fetal cells and tissues intended for use in humans. FDA is requesting that investigators contact them to determine whether any planned or ongoing clinical research would require submission of an IND application. Additional information and FDA contact information is available at http://www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/ucm105857.htm

23. Research Using Human Embryonic Stem Cells

Subawardee certifies that research using human embryonic germ cells derived from fetal tissue will be performed in compliance with NIH guidelines outlined in the NIH Grants Policy Statement.

24. Select Agent Research

Subawardee agrees to comply with the NTH Guidelines for Research Involving DNA Molecules. The NIH Guidelines are available at http://oba.od.nih.gov/oba/rac/guidelines_02/NIH_Guidelines_Apr_02.htm.

25. Health and Safety Regulations and Guidelines

a. Subawardee is responsible for meeting Federal, State, and local health and safety standards and for establishing and implementing necessary measures to minimize their employees' risk of injury or illness in activities related to this Agreement. Subawardee agrees to comply with the following regulations:

b. 29 CFR 1910.1030, Bloodborne pathogens; 29 CFR 1910.1450, Occupational exposure to hazardous chemicals in laboratories; and other applicable occupational health and safety standards issued by the Occupational Health and Safety Administration (OSHA) and included in 29 CFR Part 1910. These regulations are available at http://www.osha.gov/comp-links.html.

c. Nuclear Regulatory Commission Standards and Regulations, pursuant to the Energy Reorganization Act of 1974 (42 U.S.C. 5801 et seq.). Copies may be obtained from the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

26. Limitation on Use of Funds

Subawardee is prohibited from using funds awarded under this Agreement to support the promotion of the legalization of any drug or other substance included in Schedule I of the schedule of controlled substances established by section 202 of the Controlled Substances Act, 21 U.S.C. 812, to carry out any program of distributing sterile needles or syringes for the hypodermic injection of any illegal drug or for an abortion.

27. Animal Welfare

The Subawardee is responsible for the humane care and treatment of animals in activities funded under this Agreement. Subawardees are required to establish appropriate policies and procedures for the humane care and use of animals, based on the Office of Laboratory Animal Welfare Guide for the Care and Use of Laboratory Animals, and to comply with the Animal Welfare Act and its implementing regulations. This includes appointing an IACUC with specified responsibilities.

28. U.S. Executive Orders

U.S. Executive Orders and U.S. law prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of Subawardee to ensure compliance with these Executive Orders and laws in the conduct of its own activities. Subawardee is required to obtain the updated lists at the time of procurement of goods or services. The updated lists are available at: http://www.treasury.gov/resource-center/sanctions/SDN-List/Pages/default.aspx and http://www.un.org/Docs/sc/committees/1267. This provision must be included in all contracts, subcontracts or subawards awarded hereunder.

29. Debarment and Suspension

In accordance with 45 CFR Part 74.13 and 45 CFR Part 76, the Subawardee certifies that neither it nor its principals is presently excluded or disqualified or proposed for exclusion or disqualification from participation in this Agreement by any U.S. Federal department or agency (see the General Services Administration's "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" in accordance with E.O.s 12549 and 12689, "Debarment and Suspension" at www.epls.gov). Furthermore, Subawardee agrees that it will not knowingly enter into a subcontract or subaward with a disqualified or excluded party on this list.

30. Nondelinquency on Federal Debt

The Federal Debt Collection Procedures Act of 1990 (Act), 28 U.S.C. 3201(e), provides that an organization or individual that is indebted to the United States, and has a judgment lien filed against it, is ineligible to receive a Federal grant. The Subawardee certifies that Subawardee is not delinquent in repaying any Federal debt, has not been judged to be in default on a Federal debt and Subawardee does not have a judgment lien filed against it.

31. Nonliability and Disclaimers

Subawardee agrees that NIH will not assume liability for third party claims for damages arising out of this Agreement and that Subawardee will have no relationship with NIH solely because of this Agreement.

32. Equal Employment Opportunity

Subawardee is required to comply with E.O. 11246, “Equal Employment Opportunity,” as amended by E.O. 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and as supplemented by regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor. No U.S. citizen or legal resident of the United States will be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any activity funded under this Agreement on the basis of race, color, national origin, age, handicap or sex.

33. Clean Air/Water

Subawardee agrees to comply with all applicable standards, orders or regulations pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.) Violations are to be reported to 1AVI.

34. Drug Free Workplace

Subawardee agrees that it will provide a drug-free workplace and will comply with the requirements of the Drug-Free Workplace Act of 1988 (Public Law 100-690, Title V, Subtitle D, as amended) and 45 CFR Part 76. Subawardee will notify lAVI if an employee is convicted of violating a criminal drug statute. Failure to comply with these requirements may be cause for debarment.

35. Lobbying

Subawardee agrees to comply with restrictions on lobbying in accordance with 45 CFR Part 93. Subawardee certifies that it will not and has not used funds awarded under this Agreement to pay any person or organization for influencing or attempting to influence an officer or employee of any Federal agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352.

36. Civil Rights

Subawardee certifies that it is incompliance with and has on file with OCR an Assurance of Compliance with the statutes described below:

- Age Discrimination Act of 1975
- Civil Rights Act of 1964
- Education Amendments of 1972
- Rehabilitation Act of 1973
- Limited English Proficiency

For reference:

Code of Federal Regulations (CFR) - www.gpoaccess.gov/cfr/
OMB Circulars - www.whitehouse.gov/omb/circulars
NIH Grants Policy Statement - http://grants.nih.gov/grants/policy/policy.htm

**Exhibit 10.70**

**EMPLOYMENT AGREEMENT**

This EMPLOYMENT AGREEMENT (this "**Agreement**") is made and entered into this [ ] day of [ ] 2013 (the "Effective Date") by and between [ ] (the "**Executive**") and PharmAthene, Inc., a Delaware corporation ("**PharmAthene**" or the "**Company**").

WITNESSETH:

WHEREAS, PharmAthene, Taurus Merger Sub, Inc. ("Merger Sub"), Theraclone Sciences, Inc. ("Theraclone") and Steven Gillis, Ph.D., as Securityholders' Representative, have entered into an Agreement and Plan of Merger dated July 31, 2013 (the "**Merger Agreement**");

WHEREAS, pursuant to the terms of the Merger Agreement, the parties identified in the recital above will enter into a business combination transaction pursuant to which Theraclone will merge with and into Merger Sub, with Theraclone being the surviving corporation and a wholly owned subsidiary of PharmAthene;

WHEREAS, the Executive is currently employed by **[**PharmAthene**] [**Theraclone**]** and a party to an Employment Agreement with **[**PharmAthene**] [**Theraclone**]** dated [ ] (the "**Prior Agreement**"); and

WHEREAS, subject to the consummation of the transactions contemplated by the Merger Agreement, the Company desires to employ the Executive and the Executive desires to [accept] [continue] employment with the Company subject to the terms and conditions herein agreed upon:

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants and obligations hereinafter set forth, the parties hereto hereby agree as follows:

**1.Effectiveness of Agreement.** This Agreement shall become effective upon the Effective Date.

**2. Employment; Term.** The Company hereby agrees to employ the Executive and the Executive hereby accepts employment with the Company upon the terms and conditions hereinafter set forth for the period commencing on the Effective Date and ending on the first anniversary of such date. The term of this Agreement shall be automatically extended for an additional year on each anniversary of the date hereof unless written notice of non-extension is provided by either party to the other party at least 90 days prior to such anniversary. The period of the Executive's employment under this Agreement, as it may be terminated or extended from time to time as provided herein is referred to as the "**Employment Period**."

**3. Position and Duties.**

**a. Position and Duties Generally.** The Executive shall be employed by the Company in the position of [TITLE] and shall faithfully render such executive, managerial, administrative and other services as are customarily associated with and incident to such position and as the Company may from time to time reasonably require consistent with such position.

**b. Other Positions.** The Executive shall hold such other positions and executive offices with the Company and/or of any of the Company's subsidiaries or affiliates as may from time to time be authorized by the Board of Directors of the Company ("Board"). The Executive shall not be entitled to any compensation other than the compensation provided for herein for serving during the Employment Period in any other office or position of the Company or any of its subsidiaries or affiliates, unless the Compensation Committee specifically approves such additional compensation; provided, however, that the President and CEO shall review, in good faith, the Executive's compensation in light of these additional responsibilities, and, if deemed appropriate, recommend that the Compensation Committee review and recommend the Board's approval of a compensation adjustment.

**c**. **Devotion to Employment.** The Executive shall be a full-time employee of the Company and shall devote the Executive's full time, attention and efforts during the Employment Period to the business of the Company and the duties required of the Executive in the Executive's position, except for vacation time taken in accordance with the Company's vacation policy in effect from time to time and in accordance with the terms of this Agreement and for absences due to temporary illness. During the Employment Period, the Executive shall not be engaged in any other business activity which, in the reasonable judgment of the Board or its designee, conflicts with the duties of the Executive hereunder, whether or not such activity is pursued for gain, profit or other pecuniary advantage. The foregoing, however, does not prohibit the Executive from participating in civic, religious or charitable activities, so long as such activities do not interfere with the Executive's duties to the Company.

**4. Compensation; Reimbursement.**

**a. Base Salary.** For the Executive's services, the Company shall pay to the Executive an annual base salary of not less than $[SALARY] per annum, payable in equal periodic installments according to the Company's customary payroll practices, but no less frequently than monthly. The Executive's base salary shall be subject to review annually by the Compensation Committee and shall be subject to increase at the option and sole discretion of the Compensation Committee.

**b. Bonus.** The Executive shall be eligible to receive at the sole discretion of the Compensation Committee, an annual cash bonus of up to an additional [_%] of the Executive's base salary [provided, however, that for fiscal year 2013, the Executive shall receive an annual cash bonus no less than Executive's target bonus, which will be paid on the earlier of (i) the Closing Date and (ii) the date such annual bonuses would otherwise be paid during the first calendar quarter of 2014.] . In addition, the Executive may be eligible for additional bonuses at the option and sole discretion of the Compensation Committee based upon the achievement of certain pre-determined performance milestones.

**c. Benefits Generally.**

i. In addition to the salary and cash bonus described above, the Executive shall be entitled during the Employment Period to participate in such employee benefit plans and programs of the Company, and shall be entitled to such other fringe benefits, as are from time to time made available by the Company generally to employees of the level, position, tenure, salary, age, health and other qualifications of the Executive including, without limitation, medical, dental and vision insurance coverage for the Executive and the Executive's dependents, disability, death benefit and life insurance and pension plans. **[**For all purposes, including eligibility, and vesting, the Executive shall be credited for Executive's prior service with Theraclone prior to the Closing.**]**

ii. [The Executive will be entitled to receive such equity compensation awards as the Compensation Committee may grant to the Executive from time to time; subject to such terms and conditions as the Compensation Committee may impose.]

iii. The Executive acknowledges and agrees that the Company does not guarantee the adoption or continuance of any particular employee benefit plan and participation by the Executive in any such plan or program shall be subject to the rules and regulations applicable thereto.

**d. Vacation.** The Executive shall be entitled to twenty (20) days of vacation in each calendar year.

**e. Expenses.** During the Employment Period, the Company shall reimburse the Executive in accordance with the practices in effect from time to time for other officers or staff personnel of the Company for all reasonable and necessary business and travel expenses and other disbursements incurred by the Executive for or on behalf of the Company in the performance of the Executive's duties hereunder, upon presentation by the Executive to the Company of appropriate supporting documentation. The Company shall reimburse approved expenses as soon as practicable after submission, but in no event later than the last day of the tax year following the tax year in which the expense was incurred. The amount of expenses eligible for reimbursement in one year will not affect the expenses eligible for reimbursement in another year.

**f. Perquisites.** The Executive shall be entitled to those perquisites as the Company shall make available from time to time to other executive officers of the Company, which shall include, without limitation, the costs for the Executive's use of a cellular telephone, personal digital assistant and a laptop computer to the extent such equipment is used for business purposes.

**5. Death; Disability.** In the event that the Executive dies or is incapacitated or disabled by accident, sickness or otherwise, so as to render the Executive mentally or physically incapable of performing the services required to be performed by the Executive under this Agreement for a period that would entitle the Executive to qualify for long-term disability benefits under the Company's then-current long-term disability insurance program or, in the absence of such a program, for a period of one hundred twenty (120) consecutive days or longer (such condition being herein referred to as a "**Disability**") then (i) in the case of the Executive's death, the Executive's employment shall be deemed to terminate on the date of the Executive's death and (ii) in the case of a Disability, the Company, at its option, may terminate the employment of the Executive under this Agreement immediately upon giving the Executive notice to that effect. The determination to terminate the Executive in the event of a Disability shall be made by the Board or the Board's designee. In the case of a Disability, until the Company shall have terminated the Executive's employment hereunder in accordance with the foregoing, the Executive shall be entitled to receive the compensation provided for herein notwithstanding any such physical or mental disability.

**6. Termination For Cause.** The Company may terminate the employment of the Executive hereunder at any time during the Employment Period for "cause" (such termination being herein referred to as a "**Termination for Cause**") by giving the Executive notice of such termination, which termination shall be effective on the date of such notice or such later date as may be specified by the Company. For purposes of this Agreement, "**Cause**" means (i) the Executive's willful and substantial misconduct that can reasonably be expected to affect materially and adversely the business or affairs of the Company, (ii) the Executive's repeated neglect of duties or failure to act that can reasonably be expected to affect materially and adversely the business or affairs of the Company provided that neglect or failure to act has not been corrected, if capable of correction, within twenty (20) days after written notice is provided to the Executive by the Company, (iii) the Executive's material breach of any of the agreements contained in Sections 11, 12, 13 or 14 hereof or of any of the Company's policies, (iv) the commission by the Executive of any material fraudulent act with respect to the business and affairs of the Company, (v) the Executive's conviction of (or plea of nolo contendere to) a crime constituting a felony, (vi) demonstrable gross negligence, or (vii) habitual insobriety or use of illegal drugs by the Executive while performing the Executive's duties under this Agreement.

**7. Termination Without Cause.** The Company may terminate the employment of the Executive hereunder at any time without "cause" (such termination being herein referred to as "**Termination without Cause**") by giving the Executive notice of such termination, upon the giving of which such termination shall take effect as of the date indicated in such notice.

**8. Voluntary Termination by Executive.** Any termination of the employment of the Executive by the Executive otherwise than as a result of death or Disability or for Good Reason (as defined below) shall be herein referred to as "**Voluntary Termination**". A Voluntary Termination will be deemed to be effective immediately upon such termination.

**9. Termination by Executive for Good Reason.** Any termination of the employment of the Executive by the Executive for Good Reason shall be deemed to be equivalent to a Termination without Cause. For purposes of this Agreement "**Good Reason**" means (i) any material breach by the Company of any of its obligations under this Agreement (which shall include any material reduction in the Executive's base salary, (ii) any material reduction in the Executive's duties, authority or responsibilities, without the Executive's consent, (iii) any assignment to the Executive of duties or responsibilities materially inconsistent with the Executive's position and duties, without the Executive's consent, or (iv) the Company's determination to require the Executive's principal place of work to be a location anywhere other than within fifty (50) miles of the location of the Executive's principal place of work as of the Effective Date; provided, however, that the Executive may not terminate the Executive's employment for Good Reason unless the Executive first provides the Company with written notice specifying the Good Reason within ninety (90) days after the first occurrence of an event or condition that constitutes Good Reason, the Company fails to remedy or cure the event or condition that constitutes Good Reason within thirty (30) days after it receives such written notice and the Executive must terminate the Executive's employment within thirty (30) days following expiration of such cure period.

**10. Effect of Termination of Employment.**

**a. Voluntary Termination; Termination For Cause.** Upon the termination of the Executive's employment as a result of the Executive's Voluntary Termination or a Termination for Cause, the Executive shall not have any further rights or claims against the Company under this Agreement except the right to receive (i) the unpaid portion of the base salary provided for in Section 4(a) hereof, computed on a pro rata basis to the date of termination, (ii) payment of the Executive's accrued but unpaid amounts and extension of applicable benefits in accordance with the terms of any incentive compensation, retirement, employee welfare or other employee benefit plans or programs of the Company in which the Executive is then participating in accordance with the terms of such plans or programs, and (iii) reimbursement for any expenses for which the Executive shall not have theretofore been reimbursed as provided in Section 4(e) hereof.

**b. Termination Without Cause; Termination for Good Reason.** Upon the termination of the Executive's employment as a result of a Termination without Cause or for Good Reason, the Executive shall not have any further rights or claims against the Company under this Agreement except the right to receive (i) the payments and other rights provided for in Section 10(a) hereof and (ii) severance benefits in the form of (A) a continuation of the Executive's base salary as in effect immediately prior to such termination (but without regard to any reduction in base salary that was the event of Good Reason) for a period of 12 months following the effective date of such termination; and (B) to the extent that the Executive has elected and is continuing to receive COBRA continuation coverage under the Company's group health plan in accordance with Section 4980B of the Internal Revenue Code of 1986, as amended (the "**Code**"), the Company shall reduce the COBRA premiums that the Executive is required to pay during the first twelve (12) months following the Executive's termination of employment to that the Company charges to its active employees for the same level of group health coverage; provided, however, that the severance benefits described in clause (b)(ii) herein shall be provided in consideration for, and only after the Executive executes a General Release (which shall be provided on or about the date of termination) containing terms reasonably satisfactory to the Company within the time specified therein, but in no event later than fifty (50) days following the Executive's termination of employment. Subject to Section 24 hereof, if the Executive timely executes such General Release and the applicable revocation period with respect to such General Release lapses, the Executive shall receive the first two (2) months of Executive's salary continuation as provided in clause (ii) herein sixty (60) days after the Executive's termination of employment and the remaining payments in accordance with the Company's payroll practices. If the Executive does not timely execute the General Release or if the Executive revokes the General Release within the applicable revocation period prescribed by law, the Executive shall not be entitled to receive any severance benefits and the Executive will be required to pay one hundred two percent (102%) of the applicable premium (as defined in Code Section 4980B) for any COBRA continuation coverage elected by the Executive.

**c. Death and Disability.** Upon the termination of the Executive's employment as a result of death or Disability, neither the Executive nor the Executive's beneficiaries or estate shall have any further rights or claims against the Company under this Agreement except the right to receive the payments and other rights provided for in Sections 5 and 10(a) hereof.

**d. 280G Excise Tax.** If (1) any amounts payable to Executive under this Agreement or otherwise are characterized as excess parachute payments pursuant to Section 4999 of the Internal Revenue Code of 1986, as amended (the "Code"), and (2) Executive thereby would be subject to any United States federal excise tax due to that characterization, then Executive's termination benefits hereunder will be payable either in full or in a lesser amount, whichever would result, after taking into account the applicable federal, state and local income taxes and the excise tax imposed by Section 4999, in Executive's receipt on an after-tax basis of the greatest amount of termination and other benefits. The determination of any reduction required pursuant to this section (including the determination as to which specific payments shall be reduced) shall be made by a nationally recognized accounting firm doing business in the United States which otherwise does not perform services for the Company (which will be chosen by the mutual agreement of Executive and the Company, such services to be paid by the Company), and such determination shall be conclusive and binding upon the Company or any related corporation for all purposes. If required, the payments and benefits under this Agreement shall be reduced in the following order: (A) a pro rata reduction of (i) cash payments that are subject to Section 409A as deferred compensation and (ii) cash payments not subject to Section 409A; (B) a pro rata reduction of (i) employee benefits that are subject to Section 409A as deferred compensation and (ii) employee benefits not subject to Section 409A; and (C) a pro rata cancellation of (i) accelerated vesting of stock and other equity-based awards that are subject to Section 409A as deferred compensation and (ii) stock and other equity-based awards not subject to Section 409A. In the event that acceleration of vesting of stock and other equity-based award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's stock and other equity-based awards unless Executive elects in writing a different order for cancellation.

**11. Disclosure of Confidential Information.** The Executive shall not, directly or indirectly, at any time during or after the Employment Period, disclose to any person, firm, corporation or other business entity, except as required by law, or use or copy for any purpose except in the good faith performance of the Executive's duties to the Company, any Confidential Information (as herein defined). For purposes of this Agreement, "**Confidential Information**" means all trade secrets and all other non-public information of a business, financial, marketing, technical or other nature regardless of the form in which it is maintained (*i.e.*, whether electronically, on computer disk, in a written document, photograph, or audio or video recording) pertaining to the Company or any subsidiary, including information of others that the Company or any subsidiary has agreed to keep confidential, including any such information developed by the Executive during the course of the Executive's employment with the Company; provided, however, that Confidential Information shall not include any information that has entered or enters the public domain (other than through breach of the Executive's obligations under this Agreement) or which the Executive is required to disclose by law or legal process. Upon the Company's request at any time and upon termination of the Executive's employment, the Executive shall immediately deliver to the Company all materials, including all copies of materials, in the Executive's possession and/or control which contain Confidential Information, and shall not make or retain copies in any form of Confidential Information. **[**For purposes of this Section 11, Confidential Information shall include Confidential Information of Theraclone that the Executive had access to pursuant to the Executive's employment with Theraclone prior to the Effective Date.**]**

**12. Restrictive Covenants.** The Executive hereby acknowledges and recognizes that, during the Executive's employment with **[**PharmAthene**] [**Theraclone**]** prior to the Effective Date and during the Employment Period, the Executive has been and shall be privy to trade secrets and Confidential Information and has developed and will develop relationships with the Company's customers and their representatives, business partners, referral sources, other third parties critical to the Company's business ("Key Relationships"). Accordingly, in consideration of the benefits to be received by the Executive hereunder, [FOR KARP – except as otherwise provided under Maryland law and the Maryland rules of Professional Responsibility applicable to lawyers], the Executive agrees to the following Restrictive Covenants:

**a. Non-Competition.** The Executive shall not, from and after the date hereof, throughout the Employment Period, and for a period of twelve (12) months following the termination of the Employment Period (the "**Restricted Period**") (i) directly or indirectly engage in the development, production, marketing or sale of products that compete (or, upon commercialization, would compete) with products of the Company being developed (so long as such development has not been abandoned), marketed or sold at the time of the termination of the Employment Period (such business or activity being herein referred to as a "**Competing Business**") whether such engagement shall be as an officer, director, owner, executive, manager, employee, partner, affiliate or other participant in any Competing Business, or (ii) assist others in engaging in any Competing Business in the manner described in the foregoing clause (i).

**b. Dealings with customers and Key Relationships.**

**i.** During the Restricted Period, the Executive shall not, on behalf of the Executive, or in any capacity whatsoever for any entity or person, other than the Company, and without the express written permission of the Company, directly or indirectly, contact, solicit, market to, sell to, consult with, or perform any services whatsoever for and/or in conjunction with any customer or Key Relationship with whom the Executive has had any contact during the Executive's employment with the Company, with respect to any Competing Business, and further, the Executive shall not encourage, induce, or urge any customer or Key Relationship to cease doing business with the Company. If during this period a customer or Key Relationship contacts the Executive to perform services through a means other than through the Company, the Executive agrees to promptly notify the Company.

**ii.** The Executive understands that this prohibition against indirectly contacting, soliciting, marketing to, or selling to any customer and Key Relationship on behalf of the Executive or any entity or person other than the Company means that the Executive shall not provide information to any entity or person regarding any customer or Key Relationship; introduce any entity or person to any customer or Key Relationship; advise, suggest, or encourage any customer or Key Relationship that it should do business with any entity or person other than the Company, participate in the supervision and management of any of the accounts relating to any customer or Key Relationship; participate in the consultation of any customer or Key Relationship; participate in the development or implementation of any strategies and decisions affecting any customer or Key Relationship; or in any way, state or imply to any customer or Key Relationship that doing business with any other entity or person during the restrictive period will inure to the Executive's present or future benefit.

**iii.** The foregoing restrictions will be limited to those customers and Key relationships with whom the Executive had any contact during the two (2) year period preceding the Executive's termination of employment with the Company, including any telephonic, electronic, written, or in-person solicitations of, meetings with, or sales involving the customer or Key Relationship; the performance by the Executive of any services for and/or with and/or involving the customer or Key Relationship; any participation by the Executive in the supervision and management of any of the accounts relating to the customer or Key Relationship; consultation with any customer or Key Relationship; the development or implementation of any strategy and/or decision affecting and/or involving any customer or Key Relationship; or access to any Confidential Information relating to any customer or Key Relationship.

**c. Non-Solicitation of Employees.** During the Restricted Period, the Executive shall not, directly or indirectly, on behalf of the Executive or for any other entity or person, hire, entice, induce, encourage, urge, or solicit, or attempt to hire, entice, induce, encourage, urge, or solicit any employee of the Company or any subsidiary of the Company to leave the Company's or subsidiary's employ or to cause any employee of the Company or any subsidiary or any person who had been employed by the Company or any subsidiary at any time during the preceding twelve (12) month period, to leave the Company's employ or to become employed by any other person or entity that, in whole or in part, is a Competing Business.

**d. Limitation of Restrictive Covenants.** The Restrictive Covenants set forth in this Section 12 apply only to the extent that the Executive's activities relate directly or indirectly to a Competing Business. [For purposes of the Restrictive Covenants, references to the "Company" shall be deemed to include Theraclone prior to the Effective Date.]

**13. Non-Disparagement.** The Executive shall not engage in conduct, through word, act, gesture or other means, or disclose any information to the public or any third party which (i) directly or indirectly discredits or disparages in whole or in part the Company or Theraclone, or the respective subsidiaries, divisions, affiliates and/or successors of the Company or Theraclone as well as the products and the respective officers, directors, stockholders and employees of each of them; (ii) is detrimental to the reputation, character or standing of these entities, their products or any of their respective officers, directors, stockholders and/or employees; or (iii) which generally reflects negatively on the management decisions, strategy or decision-making of these entities. Factual statements made in legal actions, legal proceedings, or government investigative proceedings that are protected by a qualified privilege or immunity are not intended to be construed as disparagement.

**14. Company Right to Inventions.** The Executive hereby acknowledges that during the course of the Executive's employment the Executive may be expected to apply intellectual efforts to develop and/or improve the Company's products and to conceive new ideas and products that will benefit the Company in its business. All Inventions and Works which, during the Executive's employment with the Company or previously as a [PharmAthene employee] [Theraclone employee prior to the Effective Date] (whether or not during usual working hours) and for a period of one year thereafter, the Executive designs, creates or develops or designed, created or developed, solely or in conjunction with others, in the course of the performance of the Executive's duties or which relate to the business of the Company [and/or Theraclone], are, together with all rights therein, acknowledged to be made or conceived for the exclusive benefit of the Company, and will become the Company's Intellectual Property Rights. The Executive agrees to immediately notify the Company upon the design, creation or development of all Inventions and Works.

All Works shall be deemed “Works Made For Hire,” as that term is used and understood within the Copyright Act of 1976, as amended. To the extent any Works are determined not to be "Works Made For Hire," and to the extent that title to or ownership of any Invention or Work and all other rights therein are not otherwise vested exclusively in the Company, the Executive shall, at any time, without further consideration, but at the Company's expense, assign and transfer to the Company Executive’s entire right, title and interest (including copyrights and patents) in and to all such Inventions and Works.

The Executive agrees to cooperate fully with the Company, its successors, assigns, or designees in protecting the Intellectual Property Rights. At the Company’s request the Executive will execute and deliver to the Company all documents or instruments which may be necessary to secure and perfect the Company's title to and ownership of Inventions and Works, including, but not limited to, applications for letters patent (and extensions, continuations and reissues), applications for copyrights, and documents or instruments of assignment or transfer. The Executive further agrees to assist in the maintenance of those Intellectual Property Rights and in the prosecution or other legal or administrative proceedings involving same. The Executive agrees that Executive’s obligation to execute any and all such instruments and documents and to render such cooperation shall continue after the termination of the Executive’s employment. It is understood that all expenses of applying for and obtaining the Intellectual Property Rights shall be borne by the Company. Further, the Company shall reimburse the Executive for the time spent and reasonable travel and other out-of-pocket expenses that he incurs in connection with any steps that he take pursuant to the provisions of this Section, provided such time was spent and such expenses were incurred at the prior written request and/or with the prior written approval of the Company.

**15. Severability and Enforceability.** It is the desire and intent of the parties hereto that the provisions of this Agreement be enforceable in each jurisdiction in which enforcement is sought to the fullest extent permissible. This Agreement is divisible and separable, so that if any provision shall be held to be invalid, unlawful, or unenforceable, such holding shall not impair the remaining provisions. If any provision is held to too broad or unreasonable in duration, scope, or character of restriction to be enforced, such provision shall be modified to the extent necessary in order to legally enforce such provision to the fullest extent permitted by law. Both the Company and the Executive expressly authorize any court of competent jurisdiction to enforce any such provision to the fullest extent permitted by law.

**16. Remedies; Survival.**

**a. Injunctive Relief.** The Executive acknowledges and understands that the provisions of the covenants contained in Sections 11, 12, 13 and 14 hereof, the violation of which cannot be accurately compensated for in damages by an action at law, are of crucial importance to the Company, and that the breach or threatened breach of the provisions of this Agreement would cause the Company irreparable harm. In the event of a breach or threatened breach by the Executive of the provisions of Sections 11, 12, 13 or 14 hereof, the Company shall be entitled to an injunction restraining the Executive from such breach, and the Executive hereby consents to the issuance of an injunction, without the obligation of the Company to post any bond. Nothing herein contained shall be construed as prohibiting the Company from pursuing any other remedies available for any breach or threatened breach of this Agreement.

**b. Extension of Restricted Period.** The Restricted Period set forth in Section 12 shall be extended by a period equal to the time period during which the Executive is in breach of any of such provisions.

**c.Attorneys' Fees and Costs.** In a dispute arising out of or related to this Agreement or the Executive's employment, the prevailing party shall have the right to collect from the other party its reasonable attorney fees and costs and necessary expenditures.

**d. Survival.** Notwithstanding anything contained in this Agreement to the contrary, the provisions of this Agreement shall survive the termination of the Executive's employment until, by their terms, such provisions are no longer operative.

**17. Notices.** Notices and other communications hereunder shall be in writing and shall be delivered personally or sent by air courier or first class certified or registered mail, return receipt requested and postage prepaid, addressed as follows:

if to the Company:

_____

_____

_____

_____

with a copy to:

_____

_____

_____

_____

if to the Executive to:

_____

_____

_____

_____

with a copy to:

_____

_____

_____

_____

All notices and other communications given to any party hereto in accordance with the provisions of this Agreement shall be deemed to have been given on the date of delivery, if personally delivered; on the business day after the date when sent, if sent by air courier; and on the third business day after the date when sent, if sent by mail, in each case addressed to such party as provided in this Section 17 or in accordance with the latest unrevoked direction from such party.

**18. Binding Agreement; Benefit.** The provisions of this Agreement shall be binding upon, and shall inure to the benefit of, the respective heirs, legal representatives and successors of the parties hereto.

**19. Governing Law; Jurisdiction.** This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the state of [Maryland] [Washington] applicable to a contract made and to be performed therein. Any action to enforce any of the provisions of this Agreement shall be brought in a court of the state of [Maryland] [Washington] or in Federal court located within that State. The parties consent to the jurisdiction of such courts and to the service of process in any manner provided by [Maryland] [Washington] law. Each party irrevocably waives any objection which it may now or hereafter have to the laying of the venue of any such suit, action or proceeding brought in such court and any claim that such suit, action or proceeding brought in such court has been brought in an inconvenient forum and agrees that service of process in accordance with the foregoing shall be deemed in every respect effective and valid personal service of process upon such party.

**20. Waiver of Breach.** The waiver by either party of a breach of any provision of this Agreement by the other party must be in writing and shall not operate or be construed as a waiver of any subsequent breach by such other party.

**21. Entire Agreement; Amendments.** This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes upon its effectiveness all prior agreements or understandings among the parties with respect thereof**[**, including without limitation, the Prior Agreement**]**. This Agreement may be amended only by an agreement in writing signed by the parties hereto.

**22. Headings.** The section headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

**23. Severability.** Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

**24. 409A Compliance.** If the Executive is a "specified employee" (as determined in accordance with Treasury Regulation Section 1.409A-1(i) or any written Company policy implementing such regulation) at the time of the Executive's termination of employment, then the Executive's severance payments that are otherwise payable during the first six-month period following the Executive's termination of employment (to the extent that such severance payments constitute nonqualified deferred compensation within the meaning of Section 409A of the Code and the regulations promulgated thereunder) shall be deferred until the date that is six (6) months after the Executive's termination of employment (or, if earlier, upon the Executive's death). Each severance payment that is due hereunder shall be treated as a separate payment for purposes of Section 409A of the Code. Each severance payment that satisfies the requirements of the "short-term deferral" rule set forth in Section 409A of the Code is not intended to constitute deferred compensation. Moreover, any severance payment that does not exceed the Section 409A limit as set forth in Section 409A-1(b)(9)(iii)(A)(1) of the Code is not intended to constitute deferred compensation. All severance payments shall be completed by, and no further severance benefits shall be payable after, December 31 of the second taxable year following the year in which the Executive's termination of employment occurs. This Agreement shall be interpreted to comply with, or otherwise be exempt from, the requirements of Section 409A. Accordingly, references to termination of employment hereunder shall be interpreted to mean "separation from service" as defined in regulations under Section 409A of the Code.

**25. Executive's Acknowledgement.** The Executive acknowledges (a) that the Executive has had the opportunity to consult with independent counsel of the Executive's own choice concerning this Agreement and (b) that the Executive has read and understands the Agreement, is fully aware of its legal effect and has entered into it freely based on the Executive's own judgment.

**26. Assignment.** The Executive understands and agrees that the Company may assign this Agreement to any entity or person that purchases substantially all or part of the Company's assets or purchases any subsidiary, affiliate, or division of the Company for which the Executive has performed any services pursuant to this Agreement, and the Executive hereby consents to any such assignment. The Executive further understands and agrees that he may not assign this Agreement.

**27. Indemnification.** The Company shall, to the maximum extent permitted by law, indemnify and hold the Executive harmless against, and shall purchase director and officer indemnity insurance on behalf of the Executive for, expenses, including reasonable attorneys' fees (the attorney to be selected by the Executive), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding or claim (or threatened proceeding or claim) arising by reason of the Executive's employment by the Company. The Company shall advance to the Executive any expense incurred in defending any such proceeding or claim (or threatened proceeding or claim) to the maximum extent permitted by law. The above indemnification provision shall be in addition to, and shall not be interpreted to limit or reduce, any other indemnification obligations of the Company to the Executive, whether under contract, the Company's certificate of incorporation, the Company's bylaws, or under law or otherwise.

**28. Resignation of All Other Positions.** Unless otherwise agreed to in writing by the Executive and the Company at the time of Termination, upon Termination the Executive shall be deemed to resign (i) if a member, from the Board and the board of directors of any Affiliate and any other board to which the Executive has been appointed or nominated by or on behalf of the Company or an Affiliate, (ii) from each position with the Company and any Affiliate, including as an officer of the Company or an Affiliate, and (iii) as a fiduciary of any employee benefit plan of the Company and any Affiliate.

**29. Litigation and Regulatory Cooperation.** During and after the Executive's employment, the Executive shall reasonably cooperate with the Company in the defense or prosecution of any claims or actions then in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that transpired while the Executive was employed by the Company. The Executive's cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Executive's employment, the Executive also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review relates to events or occurrences that transpired while the Executive was employed by the Company. The Company shall provide the Executive with compensation on an hourly basis at a rate equivalent to the hourly rate of the Executive's last annual Base Salary calculated using a forty (40) hour week over fifty-two (52) weeks for requested litigation and regulatory cooperation and occurs after the Executive's termination of employment, and reimburse the Executive for all costs and expenses incurred in connection with the Executive's performance under this Section 29, including, but not limited to, reasonable attorneys' fees and costs.

**30. Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall for all purposes constitute one agreement which is binding on all of the parties hereto.

IN WITNESS WHEREOF, the parties have duly executed this Agreement as of the date first above written.

EXECUTIVE

_____

[NAME]

PHARMATHENE, INC.

_____

By:
Title:

**Exhibit 23.1**

**Consent of Independent Auditors**

We consent to the reference to our firm under the caption “Experts” and to the use of our report dated September 6, 2013, with respect to the financial statements of Theraclone Sciences, Inc. for the years ended December 31, 2012 and 2011, in Amendment No. 1 to the Registration Statement (Form S-4 No. 333-191055) and related proxy statement/prospectus/consent solicitation of PharmAthene, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

Seattle, Washington
October 24, 2013

**Exhibit 23.2**

**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption "Experts" and to the use of our report dated March 13, 2013, included in the Proxy Statement of PharmAthene, Inc. that is made a part of Amendment No. 1 to the Registration Statement (Form S-4) and Prospectus of PharmAthene, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

Baltimore, Maryland
October 22, 2013

**Exhibit 99.1**

**FOLD AND DETACH HERE AND READ THE REVERSE SIDE**

**PharmAthene, Inc.**

**One Park Place**
**Annapolis, MD 21401** **PROXY**

**For The Special Meeting To Be Held December 3, 2013**

**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF THE COMPANY**

The undersigned hereby constitutes and appoints Mitchel Sayare and Eric I. Richman, and each of them, attorneys and agents, with full power of substitution, to vote as proxy all the shares of Common Stock, par value $0.0001 per share, of PharmAthene, Inc. ("PharmAthene" or the "Company") of which the undersigned is the record holder, standing in the name of the undersigned at the Special Meeting of Stockholders of the Company to be held at 9:00 a.m., New York time, on December 3, 2013 at 1301 K Street, NW, East Tower, Sixth Floor, Washington, DC 20005, and at any adjournment or postponement thereof, in accordance with the instructions noted below, and with discretionary authority with respect to such other matters as may properly come before such meeting or any adjournment or postponement thereof.

**This Proxy will be voted in accordance with the stockholder's specifications hereon. In the absence of any such specification, this Proxy will be voted:**

- **"FOR" proposal to approve the issuance of PharmAthene common stock, par value $0.0001 per share, in the merger contemplated by the Agreement and Plan of Merger, dated as of July 31, 2013, by and among PharmAthene, Inc., Theraclone Sciences, Inc., Merger Sub, Inc., a wholly owned subsidiary of PharmAthene, and Steven Gillis, Ph.D., as Securityholders' Representative;**
- **"FOR" proposal to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue by 75,000,000, from 100,000,000 to 175,000,000;**
- **"FOR" approval of each nominee for director to serve as a director until PharmAthene's next annual meeting of stockholders or until his or her respective successor is elected and qualified;**
- **"FOR" proposal to approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of PharmAthene upon completion of the merger; and**
- **"FOR" proposal to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.**

**If any other business is presented at the Special Meeting, this proxy will be voted by the above-named proxies at the direction of a majority of the Board of Directors. At the present time, the Board of Directors knows of no other business to be presented at the Special Meeting. In addition, if the Special Meeting is required to be adjourned for any reason, this proxy will be voted by the above-named proxies at the direction of a majority of the Board of Directors.**

*(Continued, and to be marked, dated and signed, on the other side)*

**FOLD AND DETACH HERE AND READ THE REVERSE SIDE**

**PROXY**

Please mark your votes like this x

**The undersigned hereby revokes any proxies heretofore given and directs said attorneys to act or vote as follows:**

| | | | |
|---|---|---|---|
| **1.** Proposal to approve the issuance of PharmAthene common stock, par value $0.0001 per share, in the merger contemplated by the Agreement and Plan of Merger, dated as of July 31, 2013, by and among PharmAthene, Inc., Theraclone Sciences, Inc., Merger Sub, Inc., a wholly owned subsidiary of PharmAthene, and Steven Gillis, Ph.D., as Securityholders' Representative. | o For | o Against | o Abstain |
| **2.** Proposal to approve an amendment to PharmAthene's Certificate of Incorporation to increase the number of shares of common stock that PharmAthene may issue by 75,000,000, from 100,000,000 to 175,000,000. | o For | o Against | o Abstain |

**3.** Election of Directors:

01 Mitchel B. Sayare, Ph.D.

02 John M. Gill

03 Steve Gillis, Ph.D.

04 Wende S. Hutton

05 Steven P. James

06 Brian A. Markison

07 Eric I. Richman

08 Clifford J. Stocks

09 Derace L. Schaffer, M.D.

o Vote FOR all nominees listed (except as marked)

o Vote WITHHOLD AUTHORITY to vote for all nominees listed

**FOR all nominees listed, except that authority to vote withheld for the following nominee(s):**
**Write the number(s) of the nominee(s) in the box provided to the right.**

O

| | | | |
|---|---|---|---|
| **4.** Proposal to approve an amendment to PharmAthene's Bylaws to require, for a period to expire no later than July 31, 2015, the approval of at least 66 2/3% of PharmAthene's Board of Directors to remove Clifford J. Stocks, as the Chief Executive Officer of PharmAthene upon completion of the merger. | o For | o Against | o Abstain |
| **5.** Proposal to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals. | o For | o Against | o Abstain |

**COMPANY ID:**

**PROXY NUMBER:**

**ACCOUNT NUMBER:**

Date _____

Signature _____

Signature _____

NOTE: When shares are held by joint tenants, both should sign. When signing as attorney, trustee, administrator, executor, guardian, etc., please indicate your full title as such. If a corporation, please sign in full corporate name by President or other authorized officer, giving full title as such. If a partnership, please sign in full partnership name by authorized person.

**Please complete and date this proxy and return it promptly**
**in the enclosed postage-prepaid envelope.**

**Exhibit 99.6**

**CONSENT OF STEVEN P. JAMES**

In accordance with Rule 438 promulgated under the Securities Act of 1933, as amended, the undersigned hereby consents to being named in the Registration Statement on Form S-4, initially filed by PharmAthene, Inc. ("***PharmAthene***") with the Securities and Exchange Commission on September 9, 2013, and all supplements and amendments thereto (the "***Registration Statement***"), as a person anticipated to become a director of PharmAthene effective upon the completion of the merger as described in the Registration Statement.

/s/ Steven P. James
Name: Steven P. James
Date: October 22, 2013