

LIGAND PHARMACEUTICALS INC
Form S-4/A
December 17, 2009
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As filed with the Securities and Exchange Commission on December 17, 2009

Registration No. 333-163379

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

PRE-EFFECTIVE AMENDMENT NO. 1 TO
FORM S-4
REGISTRATION STATEMENT

Under

The Securities Act of 1933

LIGAND PHARMACEUTICALS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

2834
(Primary Standard Industrial
Classification Code Number)

77-0160744
(I.R.S. Employer
Identification Number)

11085 North Torrey Pines Road
La Jolla, California 92037

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(858) 550-7500

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

John L. Higgins

President and Chief Executive Officer

Ligand Pharmaceuticals Incorporated

11085 North Torrey Pines Road

La Jolla, California 92037

(858) 550-7500

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

Copies to:

Hayden J. Trubitt, Esq.

David F. Hale

Jason L. Kent, Esq.

Michael J. Brown, Esq.

**Executive Chairman and Acting Principal
Executive Officer**

Charles J. Bair, Esq.

Stradling Yocca Carlson & Rauth

Metabasis Therapeutics, Inc.

Cooley Godward Kronish LLP

4365 Executive Drive, Suite 1500

11119 North Torrey Pines Road

4401 Eastgate Mall

San Diego, California 92121

La Jolla, California 92037

San Diego, California 92121

(858) 926-3000

(858) 587-2770

(858) 550-6000

Approximate date of commencement of proposed sale to the public:

As soon as practicable after the effectiveness of this registration statement and the satisfaction or waiver of all other conditions under the merger agreement 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, please check the following box. "

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. "

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. "

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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 the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act.

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

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)

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

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered(1)	Amount to be registered	Proposed maximum offering price per unit(2)	Proposed maximum aggregate offering price(3)	Amount of registration fee(4)
Roche Contingent Value Rights	38,520,915	\$0.086	\$3,305,789	\$184.46
TR Beta Contingent Value Rights	38,520,915	\$0.086	\$3,305,789	\$184.46
Glucagon Contingent Value Rights	38,520,915	\$0.086	\$3,305,789	\$184.46
General Contingent Value Rights	38,520,915	\$0.086	\$3,305,789	\$184.46
TOTAL			\$13,223,157	\$737.85

(1) Relates to Contingent Value Rights of Ligand Pharmaceuticals Incorporated, a Delaware corporation (Ligand), issuable to holders of common stock, \$0.001 par value per share, of Metabasis Therapeutics, Inc., a Delaware corporation (Metabasis), in the proposed merger of Moonstone Acquisition, Inc., a Delaware corporation and wholly-owned subsidiary of Ligand, with and into Metabasis.

(2) Calculated based on the preceding and following columns.

(3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and (f) under the Securities Act of 1933, as amended, based upon the product of (a) \$0.39, the average of the high and low sale prices of Metabasis common stock as reported on The Nasdaq Capital Market on November 23, 2009 and (b) the sum of (i) 35,157,359 shares of Metabasis common stock outstanding on November 23, 2009 plus (ii) 3,363,556 shares of Metabasis common stock subject to outstanding Metabasis warrants on November 23, 2009. The product of (a) and (b) above is then reduced by \$1.8 million, the estimated cash payment to be made to Metabasis stockholders upon the closing of the above-referenced merger. Finally, this amount is divided equally among the four types of CVRs.

(4) This fee, which has already been paid, was calculated pursuant to Section 6(b) of the Securities Act of 1933, as amended.

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 of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this proxy statement/prospectus is not complete and may be changed. Ligand Pharmaceuticals Incorporated may not sell these securities until the registration statement filed with the Securities and Exchange Commission, of which this proxy statement/prospectus is a part, is effective. This proxy statement/prospectus does not constitute an offer to sell, or a solicitation of an offer to purchase, the securities described in this proxy statement/prospectus, or the solicitation of a proxy, in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer, solicitation of an offer or proxy solicitation in such jurisdiction.

Subject to completion, dated December 17, 2009

MERGER PROPOSAL YOUR VOTE IS VERY IMPORTANT

Dear Fellow Stockholder:

The board of directors of Metabasis Therapeutics, Inc. has unanimously approved a merger agreement that provides for the merger of Moonstone Acquisition, Inc., a wholly owned subsidiary of Ligand Pharmaceuticals Incorporated, with and into Metabasis. As a result of the merger, Metabasis will become a wholly owned subsidiary of Ligand.

As is more fully described in the accompanying proxy statement/prospectus, in connection with the merger, each share of Metabasis common stock will be converted into the right to receive a pro rata portion of a total cash payment equal to \$3,207,500 (cash consideration) less Metabasis' estimated net liabilities (as defined in the merger agreement) at closing and also less \$150,000 to be deposited in the Stockholders Representative's fund. Metabasis currently estimates the total closing payment to be approximately \$1.8 million in cash. In addition, each Metabasis stockholder will receive, for each share of Metabasis stock held, (i) one Roche CVR, (ii) one TR Beta CVR, (iii) one Glucagon CVR and (iv) one General CVR (each as defined in Certain Terms of the Merger Agreement CVR Agreements below).

We describe in detail the terms of the merger, including the contingent value rights, in the accompanying proxy statement/prospectus under the caption Certain Terms of the Merger Agreement beginning on page 76, which we urge you to read carefully. The common stock of Metabasis is quoted on the Nasdaq Capital Market under the symbol MBRX.

The merger cannot be completed unless Metabasis stockholders adopt the merger agreement and approve the merger contemplated by the merger agreement at the special meeting of Metabasis stockholders to be held on January 27, 2010. We describe in detail the special meeting of Metabasis stockholders in the accompanying proxy statement/prospectus under the caption The Special Meeting of Metabasis Stockholders beginning on page 41, which we urge you to read carefully. More information about Ligand, Metabasis and the merger is contained in the accompanying proxy statement/prospectus. **We encourage you to read the proxy statement/prospectus and to carefully consider the risk factors beginning on page 22 of the accompanying proxy statement/prospectus before voting.**

Your vote is very important. Whether or not you plan to attend the special meeting of Metabasis stockholders, please take the time to vote your shares. You may vote your shares by completing, signing, dating and returning the enclosed proxy card as promptly as possible in the enclosed postage-prepaid envelope.

Thank you for your continued support.

Sincerely,

David F. Hale

Executive Chairman and Acting Principal Executive Officer

Metabasis Therapeutics, Inc.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THE SECURITIES TO BE ISSUED IN CONNECTION WITH THE MERGER, OR DETERMINED WHETHER THIS PROXY STATEMENT/PROSPECTUS IS ACCURATE OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

This proxy statement/prospectus is dated December 22, 2009, and is first being mailed to Metabasis stockholders on or about that date.

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METABASIS THERAPEUTICS, INC.

11119 NORTH TORREY PINES ROAD

LA JOLLA, CA 92037

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

TO BE HELD ON JANUARY 27, 2010

To the Stockholders of Metabasis Therapeutics, Inc.:

We will hold a special meeting of the stockholders of Metabasis Therapeutics, Inc., a Delaware corporation, on January 27, 2010 at 10:00 a.m., local time, at the offices of Cooley Godward Kronish LLP, located at 4401 Eastgate Mall, San Diego, California 92121, to consider and vote upon the following matters:

1. A proposal to adopt the Agreement and Plan of Merger, dated as of October 26, 2009 (and as amended), by and among Ligand Pharmaceuticals Incorporated, Moonstone Acquisition, Inc., or Merger Sub, a wholly owned subsidiary of Ligand, Metabasis, and Metabasis stockholders representative, and approve the merger contemplated by such merger agreement. A copy of the merger agreement is attached as *Annex A* to the proxy statement/prospectus accompanying this notice and the forms of CVR agreements related thereto are attached as *Annex B*, *Annex C*, *Annex D* and *Annex E* to the proxy statement/prospectus accompanying this notice;
2. A proposal to adjourn the special meeting to a later date or dates, if necessary, to permit further solicitation of proxies if there are not sufficient votes at the time of the special meeting to adopt the merger agreement and approve the merger; and
3. To transact such other business as may properly come before the special meeting and any adjournments or postponements thereof. The Metabasis board of directors has unanimously adopted the merger agreement and approved the merger, and recommends that the stockholders vote **FOR** the adoption of the merger agreement and approval of the merger and **FOR** the proposal to adjourn the special meeting to a later date, if necessary.

The close of business on December 22, 2009 has been fixed by the Metabasis board of directors as the record date for the determination of stockholders entitled to notice of and to vote at the special meeting or any adjournment or postponement thereof. Only holders of record of Metabasis common stock at the close of business on the record date may attend and vote at the special meeting. A list of such stockholders will be available for inspection at the offices of Cooley Godward Kronish LLP, located at 4401 Eastgate Mall, San Diego, California 92121, during ordinary business hours for the ten-day period before the special meeting.

All stockholders entitled to vote are cordially invited to attend the special meeting in person. However, to ensure your representation at the special meeting, you are urged to complete, sign and return the enclosed proxy card as promptly as possible in the enclosed postage-prepaid envelope. You may revoke your proxy in the manner described in the accompanying proxy statement/prospectus at any time before it is voted at the special meeting. Executed proxies with no instructions indicated thereon will be voted **FOR** the adoption of the merger agreement and approval of the merger, **FOR** the proposal to adjourn the special meeting to a later date, if necessary, and, in the discretion of the proxy holders, on any other proposals that may properly come before the special meeting.

If you plan on attending the special meeting and your shares are held in the name of a broker, trust, bank or other nominee, you should bring with you a proxy or letter from the broker, trustee, bank or nominee confirming your beneficial ownership of the shares. If you plan to vote via proxy and your shares are held in your broker's name, please note that your broker will not be permitted to vote on the adoption of the merger agreement and the approval of the merger or the proposal to adjourn the special meeting to a later date, if necessary, or on any other proposal that properly comes before the special meeting unless you provide your broker with instructions on how to vote.

By Order of the Board of Directors,

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Tran B. Nguyen, M.B.A.

Vice President of Finance, Chief Financial Officer and Corporate Secretary

San Diego, California

December 22, 2009

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THIS PROXY STATEMENT/PROSPECTUS INCORPORATES ADDITIONAL INFORMATION

This proxy statement/prospectus incorporates important business and financial information about Ligand from documents that are not included in or delivered with this proxy statement/prospectus. This information is available to you without charge upon written or oral request. For a more detailed description of the information incorporated by reference into this proxy statement/prospectus and how you may obtain it, see *Where You Can Find More Information* beginning on page 144 of this proxy statement/prospectus.

Ligand will provide you with copies of this information relating to Ligand (excluding all exhibits unless Ligand has specifically incorporated by reference an exhibit in this proxy statement/prospectus) without charge, upon written or oral request to:

Ligand Pharmaceuticals Incorporated

11085 North Torrey Pines Road, Suite 300

La Jolla, California 92037

Attn: Investor Relations

(858) 550-7500

In order to receive timely delivery of the documents before the special meeting, you must make your requests no later than January 17, 2010.

ABOUT THIS PROXY STATEMENT/PROSPECTUS

This proxy statement, which forms a part of a registration statement on Form S-4 filed with the Securities and Exchange Commission, or SEC, by Ligand, constitutes a prospectus of Ligand under Section 5 of the Securities Act of 1933, as amended, or the Securities Act, with respect to the CVRs to be issued to Metabasis stockholders in connection with the merger. This document also constitutes a proxy statement under Section 14(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the rules thereunder, and a notice of meeting with respect to the special meeting of Metabasis stockholders to consider and vote upon the proposal to adopt the merger agreement and approve the merger. Except as otherwise provided herein, all descriptions of and calculations with respect to the terms of the merger agreement and the transactions contemplated by the merger agreement, including the merger, assume that no Metabasis stockholders exercise their appraisal rights under Delaware law.

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QUESTIONS AND ANSWERS ABOUT THE MERGER

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

A: Ligand Pharmaceuticals Incorporated, or Ligand, has agreed to acquire Metabasis Therapeutics, Inc., or Metabasis, under the terms of an Agreement and Plan of Merger, dated October 26, 2009 (and as amended), or the merger agreement, that is described in this proxy statement/prospectus. Please see the sections entitled "The Merger" and "Certain Terms of the Merger Agreement" beginning on pages 45 and 76, respectively, of this proxy statement/prospectus. A copy of the merger agreement is attached to this proxy statement/prospectus as Annex A.

In order to complete the transactions contemplated by the merger agreement, including Ligand's acquisition of Metabasis, Metabasis stockholders must adopt the merger agreement by the affirmative vote of the holders of a majority of the shares of Metabasis common stock outstanding on the record date for the special meeting and all other conditions to the merger must be satisfied or waived. You are receiving this proxy statement/prospectus because you have been identified as a Metabasis stockholder as of December 22, 2009, the record date for the special meeting, and thus you are entitled to vote at the special meeting. This document serves as a proxy statement/prospectus of Metabasis, used to solicit proxies for the special meeting, and as a prospectus of Ligand, used to offer CVRs to stockholders of Metabasis pursuant to the terms of the merger agreement. This document contains important information about the merger and the special meeting, and you should read it carefully.

Q: When and where is the special meeting of Metabasis stockholders?

A: The special meeting of Metabasis stockholders will be held on January 27, 2010, starting at 10:00 a.m., local time, at the offices of Cooley Godward Kronish LLP, located at 4401 Eastgate Mall, San Diego, California 92121.

Q: On what matters am I being asked to vote on?

A: Metabasis stockholders are being asked to consider and vote on the following items:

the adoption of the merger agreement and approval of the merger;

a proposal to adjourn the special meeting to a later date, if necessary, to solicit additional proxies in the event there are insufficient votes at the time of the special meeting to adopt the merger agreement and approve the merger; and

to transact such other business as may properly come before the special meeting and any adjournments or postponements thereof.

Q: What is the merger?

A: Under the terms of the merger agreement, Moonstone Acquisition, Inc., a wholly-owned subsidiary of Ligand, or Merger Sub, will merge with and into Metabasis, with Metabasis continuing as the surviving entity. The merger of Merger Sub with and into Metabasis is referred to herein as the merger. Upon completion of the merger, each outstanding share of Metabasis common stock will be converted into the right to receive a combination of cash and contingent value rights, or CVRs. For a more

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complete description of the merger, please see the section entitled "The Merger" beginning on page 45 of this proxy statement/prospectus.

Q: As a Metabasis stockholder, what will I receive in the merger?

A: If the merger agreement is adopted by Metabasis stockholders and the other conditions to the merger are satisfied or waived, then upon completion of the merger, each share of Metabasis common stock will be

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converted into the right to receive a pro rata portion of a total cash payment equal to \$3,207,500 (cash consideration) less Metabasis estimated net liabilities (as defined in the merger agreement) at closing and also less \$150,000 to be deposited in the Stockholders Representative's fund. Metabasis currently estimates the total closing payment to be approximately \$1.8 million in cash. In addition, each Metabasis stockholder will receive, for each share of Metabasis stock held, (i) one Roche CVR, (ii) one TR Beta CVR, (iii) one Glucagon CVR and (iv) one General CVR (each as defined in Certain Terms of the Merger Agreement CVR Agreements below).

Please see the sections entitled The Merger General and Certain Terms of the Merger Agreement CVR Agreements beginning on pages 45 and 93, respectively, of this proxy statement/prospectus for a description of the merger consideration.

Q: Who will be appointed Stockholders Representative for the merger?

A: David F. Hale, currently Executive Chairman and Acting Principal Executive Officer of Metabasis, will be appointed as Stockholders Representative upon adoption of the merger agreement.

Q: What is required to consummate the merger?

A: To consummate the merger, Metabasis stockholders must adopt the merger agreement, which requires the affirmative vote of the holders of a majority of the voting power of the shares of Metabasis common stock outstanding on the record date for the special meeting. In addition to obtaining Metabasis stockholder approval, 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 Certain Terms of the Merger Agreement Conditions to the Merger beginning on page 88 of this proxy statement/prospectus.

Q: How does Metabasis board of directors recommend that I vote?

A: After careful consideration, Metabasis board of directors approved the merger agreement and the merger and unanimously declared that the merger agreement and the merger, upon the terms and subject to the conditions set forth in the merger agreement, are advisable and in the best interests of Metabasis and its stockholders. Accordingly, Metabasis board of directors unanimously recommends that you vote FOR the proposal to adopt the merger agreement and approve the merger, and FOR the proposal to adjourn the special meeting to a later date or dates, if necessary, to solicit additional proxies in the event there are insufficient votes at the time of the special meeting to adopt the merger agreement and approve the merger. To review the background of the merger and Metabasis board of directors reasons for recommending the merger in greater detail, see the sections entitled The Merger Background of the Merger and The Merger Metabasis Reasons for the Merger; Recommendation of Metabasis Board of Directors beginning on pages 47 and 53, respectively, of this proxy statement/prospectus.

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

A: You should carefully review the section of this proxy statement/prospectus entitled Risk Factors beginning on page 22 of this proxy statement/prospectus, 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 Ligand, as an independent company, is subject.

Q: When do the parties expect to complete the merger?

A: The parties are working towards completing the merger as quickly as possible. The merger is expected to close during the first calendar quarter of 2010. However, because completion of the merger is subject to various conditions, Ligand and Metabasis cannot predict the

exact timing of the merger or whether the merger will occur at all.

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Q: Am I entitled to appraisal rights?

A: Under Delaware law, holders of Metabasis common stock are entitled to appraisal rights in connection with the merger pursuant to Section 262(d) of the Delaware General Corporation Law. Failure to take any of the steps required under Section 262(d) of the Delaware General Corporation Law on a timely basis may result in a loss of those appraisal rights. The provisions of the Delaware General Corporation Law that grant appraisal rights and govern such procedures are attached as Annex F to this proxy statement/prospectus. For a more complete description of your appraisal rights, see the section entitled *The Merger Appraisal Rights of Dissenting Metabasis Stockholders* on page 72 of this proxy statement/prospectus.

Q: What will happen to any options or warrants to acquire Metabasis common stock in the merger?

A: Metabasis board of directors, by operation of existing agreements or by resolution, will take all requisite actions such that immediately before the effective time of the merger each holder of outstanding Metabasis options shall be entitled to exercise in full all Metabasis options held by such holder by paying the exercise price therefor in exchange for shares of Metabasis common stock in accordance with the applicable Metabasis equity plan or arrangement. All outstanding Metabasis options not exercised, shall be terminated and canceled at the time of the merger without any payment or liability on the part of Metabasis. No replacement options will be issued.

Metabasis has agreed to use reasonable best efforts to enter into agreements with the holders of outstanding Metabasis warrants to terminate and cancel all such warrants, effective immediately before the effective time of the merger, without any payment or liability on the part of Metabasis. If any Metabasis warrant remains outstanding after the effective time of the merger and the holder thereof exercises such Metabasis warrant before its expiration or termination date, then Ligand shall issue and pay in respect of such exercised Metabasis warrant, in exchange for the payment of the applicable exercise price, on a per-exercised-share basis, equivalent consideration as is paid in respect of each issued and outstanding share of Metabasis common stock as of immediately before the merger.

See the section entitled *Certain Terms of the Merger Agreement Metabasis Stock Options and Warrants* beginning on page 78 of this proxy statement/prospectus.

Q: Will my rights as a Metabasis stockholder change as a result of the merger?

A: Yes. You will no longer be a Metabasis stockholder, and you will become a holder of Ligand CVRs as a result of the merger and will have rights after the completion of the merger that are governed by California law and the CVR agreements.

Q: Will I be able to trade the CVRs that I receive in connection with the merger?

A: The CVRs issued to Metabasis stockholders in connection with the merger will not be listed on any securities exchange but will be generally tradable, subject to certain procedures as set forth in more detail in this proxy statement/prospectus and the CVR agreements.

Q: What are the United States federal income tax consequences of the merger?

A: The receipt of the merger consideration by a U.S. holder in exchange for Metabasis shares will be a taxable transaction for United States federal income tax purposes. The amount of gain or loss a U.S. holder recognizes, and the timing of such gain or loss, depends in part on the United States federal income tax treatment of the CVRs, with respect to which there is substantial uncertainty. A Metabasis stockholder's gain or loss will also be determined by the stockholder's tax basis in his shares of Metabasis common stock. For a more complete description of the tax consequences of the merger, see the section entitled *The Merger Material United States Federal Income Tax Consequences of the Merger* beginning on page 69 of this proxy statement/prospectus.

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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 are urged 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.

Q: What should I do now?

A: You should carefully read this proxy statement/prospectus, including its annexes and the documents incorporated by reference, and consider how the merger will affect you. Ligand and Metabasis urge you to then respond by voting your shares through one of the following means:

by mail, by completing, signing, dating and mailing each proxy card (if you are a registered stockholder, meaning that you hold your stock in your name) or voting instruction card (if your shares are held in street name, meaning that your shares are held in the name of a broker, bank or other nominee) and returning it in the envelope provided;

via the Internet, at the address provided on each proxy card or voting instruction card (if your bank, broker or nominee makes Internet voting available);

via telephone, using the toll-free number listed on each proxy card or voting instruction card (if your bank, broker or nominee makes telephone voting available); or

in person, by attending the special meeting and submitting your vote in person (special requirements apply if your shares are held in street name and you wish to vote in person).

Q: What happens if I do not return a proxy card or otherwise vote?

A: The failure to return your proxy card, vote using the telephone or via the Internet or vote in person at the special meeting will have the same effect as voting AGAINST adoption of the merger agreement and approval of the merger, and will have no effect on the proposal for possible adjournment of the special meeting.

Q: What happens if I return a signed and dated proxy card but do not indicate how to vote my proxy?

A: If you do not include instructions on how to vote your properly signed and dated proxy, your shares will be voted FOR adoption of the merger agreement and approval of the merger, and FOR approval of possible adjournment, if any, of the special meeting.

Q: May I vote in person at the special meeting?

A: If your shares of Metabasis common stock are registered directly in your name with Metabasis 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 by Metabasis. If you are a Metabasis stockholder of record, you may attend the special meeting and vote your shares in person, rather than signing and returning your proxy card or otherwise voting by Internet or telephone.

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If your shares of Metabasis 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 special meeting. Since a beneficial owner is not the stockholder of record, 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.

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Q: May I change my vote after I have mailed my signed and dated proxy card or otherwise voted?

A: Yes. If you have submitted a proxy, you may change your vote at any time before your proxy is voted at the Metabasis special meeting of stockholders. You can do this one of four ways. First, you can send a written, dated notice to the Corporate Secretary of Metabasis stating that you would like to revoke your proxy. Second, you can complete, sign, date and submit (in time to reach Metabasis before the beginning of the special meeting) a new later-dated proxy card. Third, you can submit another proxy via the Internet or telephone. Fourth, if you are a stockholder of record or you obtain a legal proxy from your broker, trustee or nominee, you can attend the special meeting and vote in person. Your attendance at the special meeting alone will not revoke your proxy.

If you have instructed a broker to vote your shares, you must follow the directions received from your broker to change those instructions.

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

A: No. Your broker will not be able to vote your shares without instructions from you. Therefore, you should provide your broker with instructions on how to vote your shares, following the procedure provided by your broker. The failure to provide such voting instructions to your broker will have the same effect as voting AGAINST adoption of the merger agreement and approval of the merger, and will have no effect on the proposal for possible adjournment of the special meeting.

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

A: No. If you are a Metabasis stockholder, after the merger is completed a letter of transmittal will be sent to you informing you where to deliver your Metabasis stock certificates in order to receive the merger consideration. You should not send in your Metabasis common stock certificates before receiving the letter of transmittal.

Q: Who is soliciting this proxy?

A: Metabasis is conducting this proxy solicitation and will bear the cost of soliciting proxies. In addition, Metabasis may reimburse brokers, banks and other custodians, nominees and fiduciaries representing beneficial owners of shares for their expenses in forwarding soliciting materials to such beneficial owners. Metabasis directors, officers and employees may also solicit proxies by personal interview, mail, e-mail, telephone, facsimile or other means of communication. These persons will not be paid additional remuneration for their efforts.

Q: Who can help answer my additional questions?

A: Metabasis stockholders who would like additional copies, without charge, of this proxy statement/prospectus or have additional questions about the merger, including the procedures for voting their shares of Metabasis common stock, should contact:

Metabasis Therapeutics, Inc.

c/o Cooley Godward Kronish LLP

4401 Eastgate Mall

San Diego, California 92121

(858) 550-6000

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SUMMARY

This summary highlights selected information contained or incorporated by reference in this proxy statement/prospectus. You should read carefully this entire proxy statement/prospectus and the documents referred to in this proxy statement/prospectus for a more complete description of the terms of the merger and related transactions. The merger agreement is attached as Annex A to this proxy statement/prospectus, and the forms of CVR agreements related thereto are attached as Annex B, Annex C, Annex D and Annex E to this proxy statement/prospectus. Additional documents and information, including important business and financial information about Ligand and Metabasis, are incorporated by reference into this proxy statement/prospectus. You are encouraged to read the merger agreement as it is the legal document that governs the merger. It is also important that you read the forms of CVR agreements and the additional documents incorporated by reference. In this proxy statement/prospectus, unless the context otherwise requires, Ligand refers to Ligand Pharmaceuticals Incorporated and its subsidiaries, Metabasis refers to Metabasis Therapeutics, Inc. and its subsidiary, and Merger Sub refers to Moonstone Acquisition, Inc., a wholly-owned subsidiary of Ligand.

The Companies

Ligand Pharmaceuticals Incorporated

Ligand Pharmaceuticals Incorporated (NASDAQ: LGND), a Delaware corporation, is a biotechnology company that focuses on discovering and developing new drugs that address critical unmet medical needs in the areas of thrombocytopenia, anemia, cancer, hormone related diseases, osteoporosis and inflammatory diseases. Ligand aims to develop drugs that are more effective and/or safer than existing therapies, that are more convenient to administer and that are cost effective. Ligand plans to build a profitable company by generating income from research, milestone and royalty and co-promotion revenues resulting from its collaborations with pharmaceutical partners.

Ligand was incorporated in Delaware in 1987. Ligand's principal executive offices are located at 11085 North Torrey Pines Road, Suite 300, La Jolla, California 92037. Ligand's telephone number is (858) 550-7500.

Moonstone Acquisition, Inc.

Moonstone Acquisition, Inc., or Merger Sub, is a Delaware corporation and a wholly-owned subsidiary of Ligand organized in October 2009. Merger Sub does not engage in any operations and exists solely to facilitate the merger. Its principal executive offices have the same address and telephone number as Ligand.

Metabasis Therapeutics, Inc.

Metabasis Therapeutics, Inc. (NASDAQ: MBRX) is a biopharmaceutical company that has developed a pipeline of novel drugs for metabolic diseases using Metabasis' proprietary technology and its knowledge of processes and pathways within the liver that are useful for liver-selective drug targeting and treatment of metabolic diseases. Metabasis' product pipeline includes product candidates and advanced discovery programs for the treatment of metabolic and liver diseases such as diabetes, hyperlipidemia, hepatitis and primary liver cancer.

Metabasis was incorporated in Delaware in April 1997. Metabasis' principal executive offices are located at 11119 North Torrey Pines Road, La Jolla, California 92037. Metabasis has a wholly owned subsidiary, Aramed, Inc., which does not conduct an active business. Metabasis telephone number is (858) 587-2770.

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Special Meeting of Metabasis Stockholders

General. Metabasis is furnishing this proxy statement/prospectus to Metabasis stockholders in connection with the solicitation of proxies by the Metabasis board of directors for use at the special meeting of stockholders, including any adjournment or postponement of the special meeting.

Date, Time and Place. Metabasis will hold its special meeting on January 27, 2010 at 10:00 a.m., local time, at the offices of Cooley Godward Kronish LLP, located at 4401 Eastgate Mall, San Diego, California 92121.

Purpose of the Meeting. At the special meeting, the Metabasis stockholders will be asked to consider and vote upon the following matters:

1. A proposal to adopt the Agreement and Plan of Merger, dated as of October 26, 2009 (and as amended), by and among Ligand Pharmaceuticals Incorporated, Moonstone Acquisition, Inc., a wholly owned subsidiary of Ligand, a Metabasis stockholders representative, and Metabasis, and approve the merger contemplated by the merger agreement. A copy of the merger agreement is attached as *Annex A* to this proxy statement/prospectus accompanying this notice and the forms of CVR agreements related thereto are attached as *Annex B, Annex C, Annex D and Annex E* to this proxy statement/prospectus accompanying this notice;
2. A proposal to adjourn the special meeting to a later date or dates, if necessary, to permit further solicitation of proxies if there are not sufficient votes at the time of the special meeting to adopt the merger agreement and approve the merger; and
3. To transact such other business as may properly come before the special meeting and any adjournments or postponements thereof.

Quorum Required. Metabasis bylaws provide that the holders of a majority of the shares of Metabasis common stock issued and outstanding and entitled to vote at the special meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business at the special meeting. Abstentions and broker non-votes will be counted as present for the purpose of determining the presence of a quorum.

Voting Rights. Metabasis common stock is the only type of security entitled to vote at the special meeting. On December 22, 2009, the record date for determination of stockholders entitled to vote at the special meeting, there were 35,168,235 shares of Metabasis common stock outstanding. Each Metabasis stockholder of record on December 22, 2009 is entitled to one vote for each share of Metabasis common stock held by such stockholder on that date. All votes will be tabulated by the inspector of election appointed for the meeting, who will separately tabulate affirmative and negative votes, abstentions and broker non-votes.

Proxies. Whether or not you are able to attend Metabasis special meeting of stockholders, you are urged to complete and return the enclosed proxy, which is solicited by Metabasis board of directors and which will be voted as you direct on your proxy card when properly completed. In the event no directions are specified, such proxies will be voted **FOR** the adoption of the merger agreement and approval of the merger, **FOR** the proposal to adjourn the special meeting to permit further solicitation of proxies if there are not sufficient votes to adopt the merger agreement and approve the merger, and in the discretion of the proxy holders as to any other matters that may properly come before the special meeting. All shares represented by a valid proxy received before the special meeting will be voted.

Revocation of Proxies. You may also revoke or change your proxy at any time before the special meeting. To do this, send a written notice of revocation or another signed proxy with a later date to the Secretary at Metabasis principal executive offices in time to arrive before the beginning of the special meeting. If you are a stockholder of record or you obtain a legal proxy from your broker, trustee or nominee, you may also revoke your proxy by attending the special meeting and voting in person.

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Metabasis Votes Required. The affirmative vote of the holders of record of a majority of the outstanding shares of Metabasis common stock is required to adopt the merger agreement and approve the merger, and the affirmative vote of the holders of record of a majority of the shares of Metabasis common stock present and entitled to vote at the special meeting is required to adopt the proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies. If a broker or other nominee holding shares of Metabasis common stock or a holder of Metabasis common stock fails to vote on the adoption of the merger agreement and the approval of the merger or responds to that proposal with an abstain vote, it will have the same effect as a vote against that proposal. If a broker or other nominee holding shares of Metabasis common stock or a holder of Metabasis common stock responds to the proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies with an abstain vote, it will have the same effect as a vote against that proposal. If a broker or other nominee holding Metabasis common stock or a holder of Metabasis common stock fails to vote on the proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies, it will have no effect on the outcome of the vote for that proposal.

As of October 26, 2009, (i) the directors and executive officers of Metabasis beneficially owned approximately 10,199,000 shares of Metabasis common stock, representing approximately 28.9% of the outstanding shares of Metabasis common stock and (ii) Ligand and its affiliates beneficially owned approximately 10,199,000 shares of Metabasis common stock, representing approximately 28.9% of the outstanding shares of Metabasis common stock. However, due to the voting agreements described below, approximately 28.9% of the outstanding shares of Metabasis common stock are included in both groups; and so, the aggregate total beneficially owned is approximately 28.9%.

MPM Asset Management Investors 2000 B LLC, MPM BioVentures II, L.P., MPM BioVentures II-QP, L.P., MPM BioVentures GMBH&Co Parallel- Beteiligungs KG, InterWest Partners VII, L.P., InterWest Investors VII, L.P. and all the directors and officers of Metabasis as of October 26, 2009, who as of that date collectively owned approximately 28.9% of the outstanding shares of Metabasis common stock, have entered into voting agreements with Ligand pursuant to which such stockholders have agreed, among other things, to vote the shares of common stock of Metabasis owned by them in favor of adopting the merger agreement and approving the merger. For a description of the voting agreements, see *Certain Terms of the Merger Agreement Voting Agreements* beginning on page 101 of this proxy statement/prospectus.

Solicitation of Proxies. Metabasis will bear the cost of this solicitation, including the printing and mailing of this proxy statement/prospectus, the proxy and any additional soliciting material furnished to the Metabasis stockholders. Copies of solicitation material will be furnished to brokerage houses, fiduciaries and custodians holding shares in their names that are beneficially owned by others so that they may forward this solicitation material to such beneficial owners. In addition, Metabasis may reimburse such persons for their costs of forwarding the solicitation material to such beneficial owners. The original solicitation of proxies by mail may be supplemented by solicitation by telephone, email, facsimile or other means by directors, officers, employees or agents of Metabasis. No additional compensation will be paid to these individuals for any such services.

Risk Factors

You should carefully review the section of this proxy statement/prospectus entitled *Risk Factors* beginning on page 22 of this proxy statement/prospectus, 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 Ligand, as an independent company, is subject. These risk factors should be considered along with any additional risk factors in the reports of Ligand or Metabasis filed with the Securities and Exchange Commission, or SEC, and any other information included in or incorporated by reference into this proxy statement/prospectus.

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Recommendation to Metabasis Stockholders

Metabasis board of directors has unanimously adopted the merger agreement and approved the merger. The board of directors of Metabasis recommends that Metabasis stockholders vote **FOR** the adoption of the merger agreement and approval of the merger, and **FOR** the approval of the proposal to adjourn the special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the adoption of the merger agreement and approval of the merger, at the time of the special meeting.

Merger Structure; Merger Consideration

In the merger, Merger Sub will merge with and into Metabasis, with Metabasis continuing as the surviving entity. Upon completion of the merger, if the merger agreement is adopted by Metabasis stockholders and the other conditions to the merger are satisfied or waived, each share of Metabasis common stock will be converted into the right to receive a pro rata portion of a total cash payment equal to \$3,207,500 less Metabasis estimated net liabilities (as defined in the merger agreement) at closing and also less \$150,000 to be deposited in the Stockholders Representative's fund. Metabasis currently estimates the total closing payment to be approximately \$1.8 million in cash. In addition, each Metabasis stockholder will receive, for each share of Metabasis stock held, (i) one Roche CVR, (ii) one TR Beta CVR, (iii) one Glucagon CVR and (iv) one General CVR (each as defined in Certain Terms of the Merger Agreement CVR Agreements below).

At the closing of the merger, Ligand, Metabasis, the Stockholders Representative and a rights agent will also enter into four contingent value rights agreements, or CVR agreements, in the forms attached to this proxy statement/prospectus as *Annex B, Annex C, Annex D* and *Annex E*. The CVR agreements set forth the rights that former Metabasis stockholders will have with respect to each CVR to be held by them after the closing of the merger. Each Metabasis stockholder will receive one CVR under each of the four CVR agreements for each share of Metabasis stock held. The CVRs will not be listed on any securities exchange but will be generally tradable, subject to certain procedures.

Roche CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Roche CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) 65% of any milestone payments received by Ligand or Metabasis after October 1, 2009 under a collaboration and license agreement with Hoffmann-La Roche Inc. and its affiliates (the Roche Agreement); (ii) 68% of any royalty payments received by Ligand or Metabasis after October 1, 2009 under the Roche Agreement; (iii) 65% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis after October 1, 2009 in connection with a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement); and (iv) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

TR Beta CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the TR Beta CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program (as defined in the TR Beta CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs

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incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the seventh anniversary of the merger and before the eighth anniversary of the merger, or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

Glucagon CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Glucagon CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program (as defined in the Glucagon CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the seventh anniversary of the merger and before the eighth anniversary of the merger or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

General CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the General CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) the amount of any shortfall of Ligand's interim or total \$8 million guaranteed funding obligations under the merger agreement; (ii) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including a licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program (each as defined in the General CVR agreement), if Ligand has by the time of the transaction not made research and/or development investments of at least \$700,000 on such program or (b) 25% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including a licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program, if Ligand has by the time of the transaction made research and/or development investments of at least \$700,000 on such program; (iii) (a) 90% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program (as defined in the General CVR agreement) that occur after October 1, 2009 and within six months after the merger, (b) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the sixth month anniversary of the merger and before the two year anniversary of the merger or (c) 10% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand

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in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the two year anniversary of the merger and before the ten year anniversary of the merger; (iv) 60% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with (a) any sale of certain shares of PeriCor Therapeutics, Inc. stock held by Metabasis, (b) any milestone payments or royalty payments payable directly to Ligand or Metabasis pursuant to certain PeriCor Agreements (as defined in the General CVR agreement) or (c) any full or partial sale or transfer of any rights to receive such milestone payments or royalty payments or all or any portion of a drug candidate or technology from the drug development program licensed pursuant to certain PeriCor Agreements; (v) 100% of the cash received by Ligand upon a cash exercise of any of the Metabasis warrants outstanding as of the date of the merger; (vi) 50% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with any sale of Metabasis QM/MM Technology (as defined in the General CVR agreement); and (vii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

For a description of the CVR agreements, see Certain Terms of the Merger Agreement CVR Agreements beginning on page 93 of this proxy statement/prospectus.

Treatment of Stock Options and Warrants

Metabasis board of directors will take, except to the extent that by virtue of existing agreements no action is required, all requisite actions such that each holder of outstanding Metabasis options shall be entitled to exercise in full all Metabasis options held by such holder immediately before the effective time of the merger, and such that all outstanding Metabasis options not exercised before the effective time of the merger shall be terminated and canceled without any payment by Metabasis.

Metabasis has agreed to use reasonable best efforts to enter into agreements with the holders of outstanding Metabasis warrants to terminate and cancel all such warrants, effective immediately before the effective time of the merger, without any payment or liability on the part of Metabasis. If any Metabasis warrant remains outstanding after the effective time of the merger and the holder thereof exercises such Metabasis warrant before its expiration or termination date, then Ligand shall issue and pay in respect of each such exercised Metabasis warrant, on a per-exercised-share basis, equivalent consideration as is paid in respect of each issued and outstanding share of Metabasis common stock as of immediately before the merger.

See the section entitled Certain Terms of the Merger Agreement Metabasis Stock Options and Warrants beginning on page 78 of this proxy statement/prospectus.

Metabasis Reasons for the Merger

After careful consideration, Metabasis board of directors adopted the merger agreement and approved the merger and unanimously declared that the merger agreement and the merger, upon the terms and subject to the conditions set forth in the merger agreement, are advisable and in the best interests of Metabasis and its stockholders. Metabasis board of directors consulted with Metabasis senior management, as well as Metabasis financial advisor and legal counsel, in reaching its decision to approve the merger.

Metabasis board of directors recommends that you vote **FOR** the adoption of the merger agreement and approval of the merger, and **FOR** the adjournment of the special meeting, if necessary, to solicit additional proxies. Please see the section entitled The Merger Metabasis Reasons for the Merger; Recommendation of Metabasis Board of Directors beginning on page 53 of this proxy statement/prospectus for a full discussion of the factors that Metabasis board of directors considered in reaching its decision to approve the merger.

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Opinion of Metabasis Financial Advisor

On October 26, 2009, Merriman Curhan Ford & Co., or Merriman, rendered its opinion to Metabasis board of directors that, as of October 26, 2009, and based upon and subject to the factors and assumptions set forth therein, the merger consideration to be received by the holders of Metabasis common stock pursuant to the merger agreement is fair from a financial point of view to such holders.

The full text of the written opinion of Merriman, dated October 26, 2009, which sets forth assumptions made, procedures followed, matters considered and limitations on the review undertaken in connection with the opinion, is attached as *Annex G* to this proxy statement/prospectus and is incorporated by reference herein. Merriman provided its opinion for the information and assistance of Metabasis board of directors in connection with its consideration of the merger in the form of the merger agreement, dated as of October 26, 2009. Merriman did not provide information or assistance to Metabasis board of directors in connection with its consideration of the amendment to the merger agreement, dated as of November 25, 2009. The Merriman opinion is not a recommendation as to how any holder of Metabasis common stock should vote with respect to the merger or any other matter.

Ligand's Reasons for the Merger

Ligand believes that the merger will enable Ligand to enhance its portfolio of partnerships, pipeline assets and drug discovery resources, and build long-term stockholder value. Please see the section entitled "The Merger - Ligand's Reasons for the Merger" beginning on page 65 of this proxy statement/prospectus for a full discussion of the factors that Ligand's board of directors considered in reaching its decision to approve the merger.

However, there can be no assurance that the benefits of the potential growth, synergies or opportunities considered by Ligand's board of directors will be achieved through completion of the merger. Achieving Ligand's objectives is subject to particular risks which are discussed in the section entitled "Risk Factors" beginning on page 22 of this proxy statement/prospectus.

Interests of Metabasis Officers and Directors in the Merger

In considering the recommendation of Metabasis board of directors that you vote to adopt the merger agreement, you should be aware that some of Metabasis executive officers and directors may have economic interests in the merger that are different from, or in addition to, those of Metabasis stockholders generally. See "The Merger - Interests of Metabasis Executive Officers and Directors in the Merger" beginning on page 66 of this proxy statement/prospectus.

Metabasis board of directors was aware of and considered these interests, among other matters, in approving the merger agreement and the merger, and in making its recommendation that Metabasis stockholders vote to adopt the merger agreement and approve the merger.

Stockholders Representative

David F. Hale, currently Executive Chairman and Acting Principal Executive Officer of Metabasis, will be appointed as Stockholders Representative upon adoption of the merger agreement. As Stockholders Representative, Mr. Hale will (a) negotiate and enforce (or settle) matters arising under the merger agreement, (b) accept delivery of notices, (c) monitor fulfillment of Ligand's guaranteed funding obligations, (d) confirm satisfaction of Ligand's obligations under the CVR agreements, (e) negotiate and enforce (or settle) matters with respect to the amounts to be paid to the holders of CVRs and (f) enter into binding amendments or waivers of the former stockholders and the CVR holders rights under the merger agreement and the CVR agreements. As compensation for his services as Stockholders Representative, Mr. Hale will be paid \$45,000 in annual compensation for the duration of his services. In addition, the Stockholders Representative shall not be

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responsible for any loss suffered by, or liability of any kind to, the stockholders or holders of CVRs arising out of any act done or omitted by the Stockholders Representative in connection with the acceptance or administration of the Stockholders Representative's duties, unless such act or omission involves gross negligence or willful misconduct. See Certain Terms of the Merger Agreement Stockholders Representative beginning on page 84 of this proxy statement/prospectus.

Conditions to the Merger

The obligations of Ligand, Merger Sub and Metabasis to consummate and effect the merger are subject to the satisfaction, at or before the effective time of the merger, of a number of conditions, including, among others, the following:

the merger agreement shall have been approved by Metabasis stockholders;

there shall be no order or injunction in effect, nor any law, statute or regulation enacted or adopted, preventing completion of the merger; and

the registration statement on Form S-4 (of which this proxy statement/prospectus forms a part) shall have been declared effective by the SEC.

In addition to the conditions above, the merger agreement provides that the obligations of Ligand and Merger Sub to consummate and effect the merger are subject to the satisfaction, at or before the effective time of the merger, of the following conditions, among others:

the representations and warranties of Metabasis in the merger agreement must be accurate, except for such inaccuracies that would not reasonably be expected to have a material adverse effect (subject to defined exceptions);

Metabasis shall have performed or complied in all material respects with all covenants required to be performed by it;

since the date of the merger agreement, there shall not have occurred and be continuing any event or development which, individually or in the aggregate (and subject to defined exceptions), has had or would reasonably be expected to have a material adverse effect on Metabasis;

Metabasis shall have obtained third-party consents and/or approvals (subject to defined exceptions); and

no more than 1,750,000 shares of Metabasis common stock shall be eligible to assert dissenters' rights.

The merger agreement also provides that the obligation of Metabasis to consummate and effect the merger is subject to the satisfaction, at or before the effective time of the merger, of the following conditions, among others:

the representations and warranties of Ligand and Merger Sub in the merger agreement must be accurate, except for such inaccuracies that would not reasonably be expected to have a material adverse effect (subject to defined exceptions);

Ligand and Merger Sub shall have performed or complied in all material respects with all covenants required to be performed by them; and

since the date of the merger agreement, there shall not have occurred and be continuing any event or development which, individually or in the aggregate (and subject to defined exceptions), has had or would reasonably be expected to have a material adverse effect on Ligand.

Either Ligand or Metabasis may choose to waive the conditions to its obligation to complete the merger, provided that any such waiver is in compliance with applicable law.

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Termination of the Merger Agreement

Each of Ligand and Metabasis may terminate the merger agreement by mutual consent or if:

the Metabasis stockholders do not approve the merger agreement;

the merger has not been consummated by February 15, 2010, unless the terminating party's failure to comply with the merger agreement is the cause of the failure of the merger to occur on or before this date; or

a final, permanent legal prohibition prevents the consummation of the merger, unless the terminating party has failed to use its reasonable best efforts to prevent or resolve such legal prohibition or such legal prohibition is attributable to the failure of such party to comply with the merger agreement.

Ligand may terminate the merger agreement if:

a change in recommendation of the Metabasis board of directors has occurred (as described under "Certain Terms of the Merger Agreement - Termination of the Merger Agreement" beginning on page 91 of this proxy statement/prospectus);

Metabasis breaches its representations and warranties set forth in the merger agreement, unless such breaches would not reasonably be expected to have a material adverse effect or impair Metabasis' ability to perform its obligations under the merger agreement or impair the ability of Ligand to enjoy the intended benefits of the merger, subject to Metabasis' ability to timely cure such breaches as provided in the merger agreement; or

Metabasis breaches or fails to perform in any material respect its obligations pursuant to the merger agreement, subject to Metabasis' ability to timely cure such breaches as provided in the merger agreement.

Metabasis may terminate the merger agreement if:

Ligand or Merger Sub breach their representations and warranties set forth in the merger agreement, unless such breaches would not reasonably be expected to have a material adverse effect or impair Ligand's ability to perform its obligations under the merger agreement, subject to their ability to timely cure such breaches as provided in the merger agreement;

Ligand or Merger Sub breach or fail to perform in any material respect their obligations pursuant to the merger agreement, subject to their ability to timely cure such breaches as provided in the merger agreement; or

if the Metabasis board of directors authorizes Metabasis, subject to complying with the terms of the merger agreement, to accept a superior proposal (as described under "Certain Terms of the Merger Agreement - Termination of the Merger Agreement" beginning on page 91 of this proxy statement/prospectus).

Limitation on Metabasis' Ability to Consider Other Acquisition Proposals

Metabasis has agreed that it shall not, and shall not authorize or permit Metabasis and Metabasis' subsidiaries, or any of their respective directors, officers, employees, investment bankers, attorneys and other agents or representatives to, directly or indirectly, subject to specified exceptions:

solicit, initiate, knowingly encourage or knowingly induce the making, submission or announcement of an acquisition proposal (as defined in the section entitled Certain Terms of the Merger Agreement Limitation on Metabasis Ability to Consider Other Acquisition Proposals beginning on page 85 of this proxy statement/prospectus);

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furnish any non-public information relating to Metabasis in response to or in connection with an acquisition proposal;

participate or engage in discussions or negotiations with respect to an acquisition proposal;

approve, endorse or recommend to the stockholders of Metabasis any acquisition proposal; or

withdraw or modify the recommendation of the board of directors of Metabasis that Metabasis stockholders vote to adopt the merger agreement.

See Certain Terms of the Merger Agreement Limitation on Metabasis Ability to Consider Other Acquisition Proposals beginning on page 85 of this proxy statement/prospectus.

Termination Fee

Metabasis has agreed to pay a \$400,000 termination fee to Ligand if:

the Metabasis board of directors authorizes Metabasis to accept (or to enter into a written agreement for a transaction constituting) a superior proposal or changes its recommendation with respect to the merger; or

if Ligand terminates the merger agreement as a result of (i) Metabasis representations and warranties not being true and correct, except where the failure of any such representation or warranty to be true and correct would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on Metabasis or impair in any material respect the ability of Metabasis to perform its obligations under the merger agreement or the ability of Ligand to enjoy in all material respects the intended benefit of the merger and the transactions contemplated thereby; or (ii) Metabasis material breach or failure to perform or comply with any obligation, agreement or covenant required by the merger agreement.

Metabasis has also agreed to pay a \$250,000 termination fee to Ligand if:

(i) Ligand or Metabasis terminates the merger agreement as a result of failure to obtain the required vote at the special Metabasis stockholders meeting or at any adjournment thereof, or (ii) Ligand or Metabasis terminates the merger agreement as a result of the merger not being consummated by the February 15, 2010 outside date;

neither Ligand nor Merger Sub shall have materially breached any of its representations, warranties or covenants contained in the merger agreement; and

at or before the time of any such termination of the merger agreement an acquisition proposal shall have been made (and such acquisition proposal shall not have been withdrawn before the time of the termination of the merger agreement) and within 12 months after the date of termination of the merger agreement, Metabasis or any Metabasis subsidiary consummates an acquisition transaction or enters into an agreement to consummate an acquisition transaction that is subsequently consummated.

Fees and Expenses

The merger agreement provides that, regardless of whether the merger is consummated, each party will pay its own expenses incident to preparing for, entering into and carrying out the merger agreement and the transactions contemplated by the merger agreement. Metabasis expenses of this kind would reduce Metabasis net cash and thus would reduce the merger consideration payable in the merger to Metabasis stockholders.

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Tax Matters

The receipt of the merger consideration by a United States holder in exchange for Metabasis common stock should be a taxable transaction for United States federal income tax purposes. The amount of gain or loss a United States holder recognizes, and the timing and potentially the character of a portion of such gain or loss, depends on the United States federal income tax treatment of the CVRs, with respect to which there is substantial uncertainty. A Metabasis stockholder's gain or loss will also be determined by the stockholder's tax basis in his shares of Metabasis common stock. For a more complete description of the tax consequences of the merger, see the section entitled "The Merger Material United States Federal Income Tax Consequences of the Merger" beginning on page 69 of this proxy statement/prospectus.

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 are urged 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.

Anticipated Accounting Treatment

Ligand will account for the merger under the acquisition method of accounting in accordance with ASC Topic 805, Business Combinations, as amended. See "The Merger Anticipated Accounting Treatment" beginning on page 72 of this proxy statement/prospectus.

Regulatory Filings and Approvals

Neither Ligand nor Metabasis is aware of any material governmental or regulatory requirements that must be complied with regarding the merger, other than the effectiveness of the registration statement of which this proxy statement/prospectus is a part and compliance with applicable provisions of Delaware law.

Appraisal Rights

Holders of Metabasis common stock are entitled to appraisal rights under Delaware law. See the section entitled "The Merger Appraisal Rights of Dissenting Metabasis Stockholders" beginning on page 72 of this proxy statement/prospectus.

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The following selected historical consolidated financial information is qualified by reference to, and should be read in conjunction with, Ligand's consolidated financial statements and the related notes thereto and the sections entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" from Ligand's annual report on Form 10-K and quarterly reports on Form 10-Q, which are incorporated by reference in this proxy statement/prospectus. Ligand's selected statement of operations data set forth below for each of the five years ended December 31, 2008, 2007, 2006, 2005, and 2004 and the selected balance sheet data as of December 31, 2008, 2007, 2006, 2005, and 2004 are derived from Ligand's consolidated financial statements, and statement of operations data for the nine-month periods ended September 30, 2009 and 2008 and balance sheet data as of September 30, 2009 as derived from Ligand's unaudited interim consolidated financial statements.

The unaudited interim consolidated financial statements include, in Ligand's opinion, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of the results of the unaudited periods. You should not rely on these interim results as being indicative of results Ligand may expect for the full year or any other interim period. Historical results are not necessarily indicative of the results to be obtained in the future.

	2008	2007	Year Ended December 31, 2006(2)		2005	2004
			(in thousands, except share data)			
Consolidated Statement of Operations						
Data:						
Royalties	\$ 20,315	\$ 11,409	\$	\$	\$	
Sale of royalty rights, net						31,342
Collaborative research and development and other revenues	7,000	1,485	3,977	10,217	11,300	
Research and development expenses	30,770	44,623	41,546	30,710	30,742	
General and administrative expenses	23,785	30,410	43,908	23,134	12,580	
Write-off of acquired in-process research and development	72,000					
Gain on sale leaseback	1,964	1,964	3,397			
Loss from operations	(97,276)	(60,175)	(78,080)	(43,627)	(680)	
Income (loss) from continuing operations	(97,460)	(34,759)	(56,590)	(36,035)	2,684	
Discontinued operations ⁽¹⁾	(654)	316,447	24,847	(364)	(47,825)	
Net income (loss)	(98,114)	281,688	(31,743)	(36,399)	(45,141)	
Basic per share amounts:						
Income (loss) from continuing operations	\$ (1.02)	\$ (0.35)	\$ (0.70)	\$ (0.49)	\$ 0.04	
Discontinued operations ⁽¹⁾	(0.01)	3.22	0.31		(0.65)	
Net income (loss)	\$ (1.03)	\$ 2.87	\$ (0.39)	\$ (0.49)	\$ (0.61)	
Weighted average number of common shares						
	95,505,421	98,124,731	80,618,528	74,019,501	73,692,987	
Diluted per share amounts:						
Income (loss) from continuing operations	\$ (1.02)	\$ (0.35)	\$ (0.70)	\$ (0.49)	\$ 0.03	
Discontinued operations ⁽¹⁾	(0.01)	3.22	0.31		(0.48)	
Net income (loss)	\$ (1.03)	\$ 2.87	\$ (0.39)	\$ (0.49)	\$ (0.45)	
Weighted average number of common shares						
	95,505,421	98,124,731	80,618,528	74,019,501	100,402,063	

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	Nine months ended September 30,	
	2009	2008
	(Unaudited)	
Royalties	\$ 6,386	\$ 14,926
Collaborative research and development and other revenues	18,577	
Research and development expenses	29,744	19,707
General and administrative expenses	12,190	20,579
Lease termination costs	15,235	
Write-off of acquired in-process research and development	441	
Loss from operations	(11,222)	(23,887)
Loss from continuing operations	(10,906)	(23,730)
Discontinued operations ⁽¹⁾	5,922	(4,757)
Net loss	\$ (4,984)	\$ (28,487)
Basic and diluted per share amounts:		
Loss from continuing operations	\$ (0.09)	\$ (0.25)
Discontinued operations ⁽¹⁾	0.05	(0.05)
Net income (loss)	\$ (0.04)	\$ (0.30)
Weighted average number of common shares	113,102,455	95,059,166

	As of September 30		As of December 31,			
	2009	2008	2007	2006	2005	2004
	(unaudited)		(in thousands)			
Consolidated Balance Sheet Data:						
Cash, cash equivalents, short-term investments and restricted cash and investments	\$ 45,534	\$ 82,012	\$ 95,819	\$ 212,488	\$ 88,756	\$ 114,870
Working capital (deficit) ⁽³⁾	6,848	23,315	58,975	64,747	(102,244)	(48,505)
Total assets	117,086	171,448	173,278	326,053	314,619	332,466
Current portion of deferred revenue, net	10,924	10,301		57,981	157,519	152,528
Current portion of deferred gain	1,702	1,964	1,964	1,964		
Long-term obligations (excludes long-term portions of deferred revenue, net and deferred gain)	58,198	58,743	53,048	85,780	173,280	174,214
Long-term portion of deferred revenue, net	4,866	16,819	2,546	2,546	4,202	4,512
Long-term portion of deferred gain	2,128	23,292	25,256	27,220		
Common stock subject to conditional redemption	8,344	12,345	12,345	12,345	12,345	12,345
Accumulated deficit	(684,584)	(679,626)	(581,512)	(862,802)	(831,059)	(794,660)
Total stockholders' equity (deficit)	(9,497)	(10,365)	29,115	27,352	(110,419)	(75,317)

- (1) Ligand sold its Oncology Product Line, or Oncology, on October 25, 2006 and its AVINZA Product Line, or AVINZA, on February 26, 2007. The operating results for Oncology and AVINZA have been presented in Ligand's consolidated statements of operations as Discontinued Operations.
- (2) Effective January 1, 2006, Ligand adopted Statement of Financial Accounting Standards 123(R), *Share-Based Payment*, or SFAS 123(R), using the modified prospective transition method. The implementation of SFAS 123(R) resulted in additional employee stock compensation expense of \$4.8 million in 2006.
- (3) Working capital (deficit) includes deferred product revenue recorded under the sell-through revenue recognition method.

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The following selected historical consolidated financial information should be read in conjunction with Metabasis' financial statements and the related notes thereto and the sections entitled, "Management's Discussion and Analysis of Financial Condition and Results of Operations" from Metabasis' annual report on Form 10-K and quarterly reports on Form 10-Q, which are incorporated by reference in, and delivered with, this proxy statement/prospectus. Metabasis' selected consolidated Statement of Operations data set forth below for each of the five years ended December 31, 2008, 2007, 2006, 2005, and 2004 and the Balance Sheet data as of December 31, 2008, 2007, 2006, 2005, and 2004 are derived from Metabasis' consolidated financial statements, and for the nine-month period ended September 30, 2009 and 2008 as derived from Metabasis' unaudited interim condensed consolidated financial statements.

The unaudited interim condensed consolidated financial statements include, in Metabasis' opinion, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of the results of the unaudited periods. You should not rely on these interim results as being indicative of results Metabasis may expect for the full year or any other interim period. Historical results are not necessarily indicative of the results to be obtained in the future.

	Nine Months Ended September 30, 2009 2008 (unaudited)		2008	Years Ended December 31,			2004
	2009	2008		2007	2006	2005	
(In thousands, except per share amounts)							
Statements of Operations Data:							
Revenue	\$ 16,484	\$ 3,031	\$ 4,810	\$ 9,019	\$ 4,386	\$ 3,771	\$ 6,837
Total operating expenses	18,461	35,639	47,107	53,357	41,195	28,438	22,112
Loss from operations	(1,977)	(32,608)	(42,297)	(44,338)	(36,809)	(24,667)	(15,275)
Other income (expense), net	(542)	132	(17)	2,539	3,541	1,087	303
Net loss (1)	\$ (2,519)	\$ (32,476)	\$ (42,314)	\$ (41,799)	\$ (33,268)	\$ (23,580)	\$ (14,972)
Basic and diluted net loss per share (1)							
Historical	\$ (0.07)	\$ (0.97)	\$ (1.25)	\$ (1.37)	\$ (1.15)	\$ (1.20)	\$ (1.49)
Proforma							\$ (0.98)
Shares used to compute basic and diluted net loss per share							
Historical	35,154	33,354	33,779	30,587	29,019	19,706	10,034
Proforma							15,254

- (1) The shares used to compute pro forma basic net loss per share represent the historical weighted average common shares outstanding adjusted for the 418 weighted average unvested common shares subject to repurchase for the year ended December 31, 2004. The shares used to compute pro forma diluted net loss per share represent the historical weighted average common shares outstanding adjusted for the effect of conversion of preferred stock into 5,220 common shares for the year ended December 31, 2004.

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	As of September 30, 2009 (unaudited)	2008	2007	As of December 31, 2006	2005	2004
(In thousands)						
Balance Sheet Data:						
Cash, cash equivalents and securities available-for-sale	\$ 2,215	\$ 21,599	\$ 42,438	\$ 77,923	\$ 66,893	\$ 43,855
Working capital	2,844	8,792	32,068	68,877	60,146	40,906
Total assets	4,084	27,742	50,123	85,855	73,878	47,860
Long-term obligations (including current portion)	35	11,680	8,586	7,332	3,504	2,230
Accumulated deficit	(194,845)	(192,326)	(150,012)	(108,213)	(74,945)	(51,365)
Total stockholders' equity (deficit)	2,844	3,381	32,101	68,138	59,582	41,864

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The selected unaudited pro forma condensed combined financial information presented below is based on, and should be read together with, the historical information that Ligand and Metabasis have presented in their respective filings with the SEC and the pro forma information that appears elsewhere in this proxy statement/prospectus. See the sections entitled "Unaudited Pro Forma Condensed Combined Financial Information" and "Where You Can Find More Information" beginning on pages 135 and 144, respectively, of this proxy statement/prospectus.

The selected unaudited pro forma condensed combined balance sheet as of September 30, 2009 gives effect to the proposed merger as if it had occurred on September 30, 2009, and combines the historical balance sheets of Ligand and Metabasis as of September 30, 2009. The selected unaudited pro forma condensed combined statements of operations for the year ended December 31, 2008 and for the nine months ended September 30, 2009 are presented as if the proposed merger had occurred on January 1, 2008, and combines the historical results of Ligand and Metabasis for the year ended December 31, 2008 and for the nine months ended September 30, 2009, respectively.

The pro forma adjustments related to the merger are based on a preliminary purchase price allocation whereby the estimated cost to acquire Metabasis was allocated to the assets acquired and the liabilities assumed based upon their estimated fair values. A final purchase price allocation will be performed using fair value as of the date of completion of the merger. Differences between the preliminary and final purchase price allocations could have a material impact on the accompanying unaudited pro forma condensed combined financial statement information and Ligand's future results of operations and financial position. The selected unaudited pro forma condensed combined financial statements do not reflect the realization of potential cost savings or synergistic advantages, or any related restructuring or integration costs. Certain cost savings or synergistic advantages may result from the merger, however, there can be no assurance that these cost savings or synergistic advantages will be achieved.

The selected unaudited pro forma condensed combined financial information is presented for illustrative purposes only and is not necessarily indicative of the combined financial positions or results of operations in future periods or the results that actually would have been realized if the proposed merger had been completed as of the dates indicated.

	Unaudited Pro Forma Combined (in thousands, except per share data)	
	Nine Months Ended	Year Ended
	September 30, 2009	December 31, 2008
Earnings Data:		
Revenue	\$ 41,447	\$ 32,125
Operating cost and expenses	76,072	173,662
Loss from operations	(13,199)	(139,573)
Other income	(277)	(324)
Income (loss) before income tax benefit	(13,476)	(139,897)
Income tax benefit		55
Income (loss) from continuing operations	(13,476)	(139,842)
Basic and diluted per share amounts:		
Income (loss) from continuing operations	\$ (0.12)	\$ (1.46)

	Unaudited Pro Forma Combined (in thousands)	
	September 30, 2009	
Balance Sheet Data:		
Total assets	\$	145,872
Total liabilities		134,052
Ligand common stock subject to redemption		8,344
Total stockholders' equity		3,476

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RISK FACTORS

If the merger is completed, Ligand and Metabasis will operate as a combined company in a market environment that is difficult to predict and that involves significant risks, many of which will be beyond the combined company's control. In addition to information regarding Ligand and Metabasis contained in, or incorporated by reference into, this proxy statement/prospectus, you should carefully consider the risks described below before voting your shares. Additional risks and uncertainties not presently known to Ligand and Metabasis or that they do not currently believe are important to an investor, if they materialize, also may adversely affect the merger, Ligand, Metabasis and the combined company. A discussion of additional risks and uncertainties regarding Ligand and Metabasis can be found in the information that is incorporated by reference in this proxy statement/prospectus and referred to in the section entitled "Where You Can Find More Information" beginning on page 144 of this proxy statement/prospectus. If any of the events, contingencies, circumstances or conditions described in the following risks actually occur, Ligand's and Metabasis' respective businesses, financial condition or their results of operations (both separately and as combined) could be seriously harmed. If that happens, the trading price of Ligand common stock or Metabasis common stock could decline and you may lose part or all of your investment.

Risks Related to the Merger and the Combination of the Companies

Unless certain events occur, no payments will be made under the CVRs.

As described in more detail in the section entitled "Certain Terms of the Merger Agreement - CVR Agreements" beginning on page 93 of this proxy statement/prospectus, the CVR agreements set forth the rights of the Metabasis stockholders to receive payments under the CVRs. The nature of rights under the CVR agreements and the CVRs is contractual, and the CVR holders have no rights except for those expressly set forth in the CVR agreements.

The events that result in contingent payments may not occur due to numerous factors. Among other things:

Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over any continued operation of, development of or investment in the applicable drug development programs. Therefore Ligand might not continue operation of, develop or invest in an applicable drug development program in such a way as to facilitate creating or optimizing sale or licensing transactions which could result in CVR payments.

Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar agreement with respect to the applicable drug development programs, technology or intellectual property, and upon what terms and conditions. Therefore Ligand might not enter into or optimize sale or licensing or similar transactions which could result in CVR payments.

In no event shall declining to effect a licensing agreement and/or sale agreement and/or similar agreement on terms and conditions that create a commercially unreasonable risk of liability on the part of Ligand or the surviving corporation be deemed not to satisfy the in good faith and with commercial reasonableness standard.

In no event shall declining to effect a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement) or any other decision to retain existing rights under the Roche Agreement be deemed not to satisfy the in good faith and with commercial reasonableness standard under the Roche CVR agreement.

No payments will be made in connection with a CVR payment trigger event if the trigger event occurs after the outside date as defined in the CVR agreement. Accordingly, the CVRs may ultimately have no value, even if a licensing agreement and/or sale agreement and/or similar agreement occurs.

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If Ligand develops and commercializes a drug candidate on its own, there will be no licensing agreement and/or sale agreement and/or similar agreement, and therefore there will be no CVR payment, even if the drug is successful.

For all the reasons that drug development programs might not succeed, Ligand might not be able to bring an applicable drug development program to the point where it can be made the subject of a licensing agreement and/or sale agreement and/or similar agreement, and in such event there will be no CVR payment.

CVR holders must rely on the Stockholders Representative to assert CVR holders rights, and the Stockholders Representative can enter into amendments of the CVR agreements which would adversely affect a CVR holder.

CVR holders will be required to rely, for the monitoring and enforcement and/or settlement of their rights under the CVR agreements and the CVRs, on an appointed Stockholders Representative. The initial appointed Stockholders Representative is David F. Hale, who currently is serving as Executive Chairman and Acting Principal Executive Officer of Metabasis.

To the extent permitted by applicable law, in no event shall any holders of CVRs (as opposed to the Stockholders Representative) or any former stockholders of Metabasis (as opposed to the Stockholders Representative) have, after the effective time of the merger, any power or right to commence or join in any claim (presented formally to a judicial or quasi-judicial governmental entity), lawsuit, court action, suit, arbitration or other judicial or administrative proceeding based on or arising out of any CVR agreement or the merger agreement.

Ligand may, with the written consent of the Stockholders Representative and the holders of at least 20% of the applicable series of CVRs, enter into one or more amendments to any CVR agreement for the purpose of adding, eliminating or changing any provision of the applicable CVR agreement, even if the addition, elimination or change is in any way adverse to the rights of CVR holders. Any such amendment shall be binding on all CVR holders.

The Stockholders Representative may be hindered by financial constraints.

To perform his functions with optimal effectiveness, the Stockholders Representative might find it necessary to engage outside professionals or incur other expenses. Although the merger agreement and CVR agreements provide a fund for his expenses and compensation, the fund is limited in amount and he has no obligation to spend his personal resources if the fund is exhausted. The fund will receive \$150,000 upon the closing of the merger and will thereafter be augmented (to the extent such augmentation would not increase the fund to over \$300,000) by 1% of any amounts that are otherwise payable to CVR holders under any of the CVR agreements or that are subtracted from such amounts to make or reimburse payments related to certain contingent liabilities.

The fund must also bear the expense of the Stockholders Representative's compensation for serving as such, which is \$45,000 per year.

Amounts payable under the CVRs can be reduced by up to \$2.65 million to pay or reimburse payment of certain contingent liabilities.

Metabasis has contingent liabilities of up to \$1.5 million to its landlord ARE-SD Region No. 24, LLC. In July 2009, Metabasis entered into an agreement, as amended in December 2009, to terminate as of January 2, 2010 its lease for its corporate headquarters facility, and to sell its laboratory and office equipment, in exchange for consideration including contingent cash payments to be made based upon gross revenues or proceeds actually received by Metabasis pursuant to licenses, collaboration arrangements or sales of Metabasis existing pipeline of

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therapeutic programs by September 30, 2013. ARE-SD would be entitled to receive contingent liability payments equal to 35% of such gross revenues or proceeds actually received by Metabasis, up to a total cash payment of \$1.5 million to ARE-SD.

Metabasis also has contingent liabilities of up to an aggregate of approximately \$1.15 million for contingent cash severance payments to the employees who were terminated in Metabasis May 2009 reduction in force. These contingent severance payments are triggered if Metabasis receives at least \$10 million in the aggregate from the sale or license of its intellectual property assets, including the receipt of milestone payments from Roche, before May 26, 2010. If Metabasis receives \$10 million, before May 26, 2010 from the sale or license of its intellectual property assets then Metabasis has the obligation to pay an amount equal to 46 days salary at the respective employee's salary rate at the time of termination. If the sale or license of intellectual property results in proceeds of \$20 million before May 26, 2010, Metabasis has the obligation to make additional cash payments equal to a certain additional number of days salary (depending on the employee) at the employee's respective salary rate at the time of termination.

In general, events which would give rise to payments of the contingent liabilities described in the two preceding paragraphs, or the contingent liability payments, would also give rise to payments under one of the CVRs. Each CVR agreement provides that any contingent liability payments are to be satisfied first from amounts otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such payment event, but in some instances the full amount payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such payment event will be less than the contingent liability payments owing in respect of such payment event.

In the event of such a shortfall, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such payment event will be paid by Ligand directly to the beneficiaries of the contingent liability payments rather than to or for the benefit of the holders of the CVRs under the applicable CVR agreement, and the remainder of the contingent liability payments owing in respect of such payment event, or the excess, shall be paid by Ligand directly to the beneficiaries of the contingent liability payments. Then, then upon the next payment event under any of the CVR agreements (even if not the same CVR agreement in connection with which the excess was paid), Ligand shall withhold from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such (new) payment event, and shall keep for Ligand's own account to reimburse Ligand for having paid the excess, an amount equal to 100% of the excess (or, if less, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such (new) payment event). If Ligand is not thereby reimbursed for the entire excess, the shortfall shall be rolled forward to be satisfied in the same manner by withholding from any amount otherwise payable for the benefit of the holders of CVRs in respect of the next-to-occur payment event under any of the CVR agreements (even if not the same CVR agreement in connection with which the excess was paid or in connection with which the excess was partially satisfied).

As noted, it is possible that an excess that arises because of a CVR payment triggering event that triggers payments under only one type of CVRs may be satisfied from a next-to-occur payment(s) arising under another type or types of CVRs. In such a case, the CVRs which satisfy the excess will have no recourse against the CVRs which created the excess, even if other payment events and payments later occur under the CVRs which created the excess.

It is also true that because reductions to satisfy up to the entire amount of all contingent liability payments ever payable may be made entirely or disproportionately from early-occurring payment events arising under one or more particular CVR agreements, holders of that type of CVRs would be disadvantaged in comparison to the holders of other types of CVRs if the other types of CVRs have later-occurring payment events. Payments under such other types of CVRs would not have to be reduced to satisfy contingent liability payments, if all contingent liability payments ever payable have already been satisfied.

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Uncertainty regarding the merger and the effects of the merger could cause each company's licensors, collaborators, suppliers or other strategic partners to delay or defer decisions, which could increase costs of the ongoing business for Ligand and/or Metabasis.

Ligand's and Metabasis' strategy for developing and commercializing many of their potential products includes entering into agreements with licensors, collaborators, suppliers and other strategic partners. These partners, in response to the announcement of the merger, may delay or defer decisions regarding their business relationships with each company, which could increase costs for the business of the subject company and delay, interrupt or terminate the collaborate research, development and commercialization of certain potential products, regardless of whether the merger is ultimately completed. Under specified circumstances, these partners may also terminate their agreements with each company. Any such delay, interruption or termination of the combined company's relationship with any of these partners could materially harm the combined company's business and financial condition, and frustrate any commercialization efforts for its product candidates.

The merger is subject to closing conditions that could result in the completion of the merger being delayed or not consummated, which could negatively impact Ligand's and/or Metabasis' stock price and future business and operations.

Completion of the merger is conditioned upon Ligand and Metabasis satisfying closing conditions, including adoption of the merger agreement by Metabasis' stockholders, all as set forth in the merger agreement. See the section entitled "Certain Terms of the Merger Agreement" Conditions to the Merger" beginning on page 88 for a discussion of the conditions to the completion of the merger. The required conditions to closing may not be satisfied in a timely manner, if at all, or, if permissible, waived, and the merger may not be consummated. Failure to consummate the merger could negatively impact Ligand's and/or Metabasis' stock price, future business and operations, and financial condition. Any delay in the consummation of the merger or any uncertainty about the consummation of the merger may adversely affect the future business, growth, revenue and results of operations of either or both of the companies.

If the merger is not completed for any reason, the ongoing business of Ligand and Metabasis may be adversely affected and will be subject to a number of risks, including:

Metabasis may be required, under some circumstances, to pay Ligand a termination fee of up to \$400,000. See "Certain Terms of the Merger Agreement" Termination Fee" beginning on page 92 of this proxy statement/prospectus;

the diversion of management's attention, the reduction in capital spending and acquisitions, the suspension of planned hiring and other affirmative and negative covenants in the merger agreement restricting each company's business;

failure to pursue other beneficial opportunities as a result of the focus of management of each of the companies on the merger, without realizing any of the anticipated benefits of the merger;

the market price of Ligand common stock or Metabasis common stock may decline to the extent that the current market price reflects a market assumption that the merger will be completed;

Ligand and Metabasis may experience negative reactions to the termination of the merger from licensors, collaborators, suppliers, or other strategic partners; and

Ligand's and Metabasis' costs incurred related to the merger, such as legal and accounting fees, must be paid even if the merger is not completed.

If the merger agreement is terminated and Metabasis' board of directors seeks another merger or business combination, Metabasis stockholders cannot be certain that Metabasis will be able to find a party willing to pay a price equivalent to or more attractive than the price Ligand has agreed to pay in the merger.

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Metabasis executive officers and directors have interests different from your interests that may influence them to support or approve the merger.

In considering the recommendation of the Metabasis board of directors to adopt the merger agreement, Metabasis stockholders should recognize that Metabasis executive officers and directors have interests that differ from those of Metabasis and Ligand's stockholders because of employment arrangements, severance arrangements, change of control agreements, indemnification and liability insurance and other reasons. These reasons are described in the section entitled *The Merger Agreement Interests of Metabasis Executive Officers and Directors in the Merger*.

The merger agreement limits Metabasis ability to pursue alternatives to the merger.

Metabasis has agreed that it shall not, and shall not authorize or permit Metabasis and Metabasis subsidiaries, or any of their respective directors, officers, employees, investment bankers, attorneys and other agents or representatives to, directly or indirectly, not to:

solicit, initiate, knowingly encourage or knowingly induce the making, submission or announcement of an acquisition proposal;

furnish any non-public information relating to Metabasis in response to or in connection with an acquisition proposal;

participate or engage in discussions or negotiations with respect to an acquisition proposal; or

approve, endorse or recommend to the stockholders of Metabasis any acquisition proposal.

Under the terms of the merger agreement, Metabasis has agreed to immediately cease and cause to be terminated any active discussions with any party (other than Ligand) that relate to any acquisition proposal.

Under certain circumstances, the merger agreement also provides that Metabasis will be required to pay a termination fee of up to \$400,000 to Ligand upon termination of the merger agreement. These provisions might discourage a potential competing acquirer that might have an interest in acquiring all or a significant part of Metabasis from considering or proposing an acquisition even if it were prepared to pay consideration with a higher value than that proposed in the merger, or might result in a potential competing acquirer proposing to pay consideration with a lower value to acquire Metabasis than it might otherwise have proposed to pay.

The United States federal income tax treatment of the receipt of CVRs in the merger is unclear.

There is substantial uncertainty as to the tax treatment of the receipt of CVRs in the merger. The receipt of the CVRs as part of the merger consideration may be treated as a closed transaction or an open transaction for United States federal income tax purposes, which affects the amount of gain, if any, or loss that may be recognized at the time of consummation of the merger. Ligand's current intention is to take steps consistent with closed transaction tax treatment. See *The Merger Material United States Federal Income Tax Consequences of the Merger* beginning on page 69 of this proxy statement/prospectus for a more detailed discussion of the United States federal income tax treatment of the receipt of CVRs in the merger.

Risks Related to Ligand

While Metabasis stockholders are not receiving Ligand common stock or other Ligand equity securities in the merger, the amount ultimately received by the Metabasis stockholders from the CVRs could be diminished in the event of difficulties in the business, financial condition or results of operations of Ligand. If any of the events, contingencies, circumstances or conditions described in the following risks actually occur, Ligand's business, financial condition or results of operations could be seriously harmed.

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Ligand is substantially dependent on AVINZA and PROMACTA royalties for its revenues.

King Pharmaceuticals, Inc., or King, is obligated to pay Ligand royalties based on its sales of AVINZA and GlaxoSmithKline, or GSK, is obligated to pay Ligand royalties on its sales of PROMACTA. These royalties represent and will for some time represent substantially all of Ligand's ongoing revenue. Although Ligand may also receive royalties and milestones from its partners in various past and future collaborations, the amount of revenue from such royalties and milestones is unknown and highly uncertain. As a result, any setback that may occur with respect to AVINZA or PROMACTA could significantly impair Ligand's operating results and/or reduce the market price of Ligand's stock. Setbacks could include problems with shipping, distribution, manufacturing, product safety, marketing, government licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products, as well as higher than expected total rebates, returns or discounts.

King and GSK's sales efforts for AVINZA and PROMACTA, respectively, could be affected by a number of factors and decisions regarding their organizations, operations, and activities as well as events both related and unrelated to AVINZA or PROMACTA, including sales force reorganizations and lower than expected sales calls and prescription volumes. AVINZA and PROMACTA could also face stiffer competition from existing or future products. The negative impact on the sales of AVINZA or PROMACTA will negatively affect Ligand's royalties, revenues and earnings.

Sales of AVINZA and PROMACTA may also be negatively impacted by higher than expected discounts (especially pharmacy benefit management/group purchasing organization rebates and Medicaid rebates, which can be substantial), returns and chargebacks and/or slower than expected market penetration. Other setbacks that AVINZA could face in the sustained-release opioid market include abuse issues and the inability to obtain sufficient quotas of morphine from the Drug Enforcement Agency to support production requirements.

AVINZA or PROMACTA could also face regulatory action and product safety issues. For example, the FDA previously requested expanded warnings on the AVINZA label to alert doctors and patients to the dangers of using AVINZA with alcohol. Changes were subsequently made to the label. The FDA also requested clinical studies to investigate the risks associated with taking AVINZA with alcohol. Any additional warnings, studies and any further regulatory action could have significant adverse effects on AVINZA sales.

On September 10, 2007, King reported that Actavis Elizabeth L.L.C., or Actavis, an affiliate of Actavis Group, hf., a manufacturer of generic pharmaceutical products headquartered in Iceland, had filed with the FDA an Abbreviated New Drug Application, or ANDA, with a Paragraph IV Certification pertaining to AVINZA, the rights to which were acquired by King from Ligand in February 2007. According to the report, Actavis' Paragraph IV Certification sets forth allegations that U.S. Patent No. 6,066,339, or the 339 patent, which pertains to AVINZA, and which is listed in the FDA's Approved Drug Products With Therapeutic Equivalence Evaluations, will not be infringed by Actavis' manufacture, use, or sale of the product for which the ANDA was submitted. The expiration date for this patent is November 2017. King, King Pharmaceuticals Research and Development, Inc., Elan Corporation, plc and Elan Pharma International Ltd. jointly filed suit in federal district court in New Jersey on October 18, 2007 against Actavis, Inc. and Actavis Elizabeth L.L.C. for patent infringement under the 339 patent. The lawsuit seeks a judgment that would, among other things, prevent Actavis from commercializing its proposed morphine product until after expiration of the 339 patent.

On July 21, 2009, King, King Pharmaceuticals Research and Development, Inc., Elan Corporation, plc and Elan Pharma International Ltd. jointly filed suit in federal district court in New Jersey against Sandoz Inc., or Sandoz, for patent infringement under the 339 patent. According to the complaint, Sandoz filed an ANDA for morphine sulfate extended release capsules and, in connection with the ANDA filing, Sandoz provided written certification to the FDA alleging that the claims of the 339 patent are invalid, unenforceable and/or will not be infringed by the manufacture, use or sale of Sandoz's proposed morphine product. Similar to the lawsuit against Actavis, this lawsuit seeks a judgment that would, among other things, prevent Sandoz from commercializing its proposed morphine product until after expiration of the 339 patent.

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AVINZA was licensed from Elan Corporation, or Elan, which is its sole manufacturer. Any problems with Elan's manufacturing operations or capacity could reduce sales of AVINZA, as could any licensing or other contract disputes with Elan, raw materials suppliers, or others.

Further, pursuant to the agreement with King, beginning in 2009 Ligand is no longer entitled to receive AVINZA royalties on a quarterly basis, but will collect royalties on an annual basis, which may adversely impact Ligand's cash flows.

Ligand's product candidates face significant regulatory hurdles which could delay or prevent sales.

Before Ligand obtains the approvals necessary to sell any of its potential products, it must show through preclinical studies and human testing that the product is safe and effective. Ligand and its partners have a number of products moving toward or currently awaiting regulatory action, including bazedoxifene, lasofoxifene, PS433540 and PS031291. Failure to show any product's safety and effectiveness could delay or prevent regulatory approval of a product and could adversely affect Ligand's business. The clinical trials process is complex and uncertain. For example, the results of preclinical studies and initial clinical trials may not necessarily predict the results from later large-scale clinical trials. In addition, clinical trials may not demonstrate a product's safety and effectiveness to the satisfaction of the regulatory authorities. Recently, a number of companies have suffered significant setbacks in advanced clinical trials or in seeking regulatory approvals, despite promising results in earlier trials. The FDA may also require additional clinical trials after regulatory approvals are received. Such additional trials may be expensive and time-consuming, and failure to successfully conduct those trials could jeopardize continued commercialization of a product.

The rate at which Ligand and its collaborative partners complete clinical trials depends on many factors, including, but not limited to, its ability to obtain adequate supplies of the products to be tested and patient enrollment. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites and the eligibility criteria for the trial. Delays in patient enrollment for Ligand's trials may result in increased costs and longer development times. For example, the trial entitled "Eltrombopag To Reduce The Need For Platelet Transfusion In Subjects With Chronic Liver Disease And Thrombocytopenia Undergoing Elective Invasive Procedures (ELEVATE)" was suspended in October 2009 in accordance with an Independent Data Monitoring Committee Recommendation. In addition, Ligand's collaborative partners have rights to control product development and clinical programs for products developed under the collaborations. As a result, these collaborative partners may conduct these programs more slowly or in a different manner than expected. Moreover, even if clinical trials are completed, Ligand or its collaborative partners still may not apply for FDA approval in a timely manner or the FDA still may not grant approval.

Ligand relies heavily on collaborative relationships, and any disputes or litigation with its collaborative partners or termination or breach of any of the related agreements could reduce the financial resources available to it, including milestone payments and future royalty revenues.

Ligand's strategy for developing and commercializing many of its potential products, including products aimed at larger markets, includes entering into collaborations with corporate partners and others. These collaborations have provided Ligand with funding and research and development resources for potential products for the treatment of a variety of diseases. These agreements also give Ligand's collaborative partners significant discretion when deciding whether or not to pursue any development program. Ligand's existing collaborations may not continue or be successful, and Ligand may be unable to enter into future collaborative arrangements to develop and commercialize its product candidates.

In addition, Ligand's collaborators may develop drugs, either alone or with others that compete with the types of drugs they are developing with Ligand. This would result in increased competition for Ligand's programs. If products are approved for marketing under Ligand's collaborative programs, revenues it receives will depend on the manufacturing, marketing and sales efforts of its collaborative partners, who generally retain commercialization rights under the collaborative agreements. Generally, Ligand's current collaborative partners

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also have the right to terminate their collaborations under specified circumstances. If any of Ligand's collaborative partners breach or terminate their agreements with Ligand or otherwise fail to conduct their collaborative activities successfully, Ligand's product development under these agreements will be delayed or terminated. Disputes or litigation may also arise with Ligand's collaborators, including disputes or litigation over ownership rights to intellectual property, know-how or technologies developed with its collaborators. Such disputes or litigation could adversely affect Ligand's rights to one or more of its product candidates, including its PS433540, PS031291 and LGD-4033 and small-molecule EPO mimetic compounds. Any such dispute or litigation could delay, interrupt or terminate the collaborative research, development and commercialization of certain potential products, create uncertainty as to ownership rights of intellectual property, or could result in litigation or arbitration. The occurrence of any of these problems could be time-consuming and expensive and could adversely affect Ligand's business.

If Ligand consumes cash more quickly than expected, and if it is unable to raise additional capital, it may be forced to curtail operations.

Ligand's operations have consumed substantial amounts of cash since inception. Clinical and preclinical development of drug candidates is a long, expensive and uncertain process. Also, Ligand may acquire companies, businesses or products and the consummation of such acquisitions may consume additional cash. For example, as part of the consideration for Ligand's recent acquisition of Pharmacoepia, Inc., or Pharmacoepia, Ligand distributed approximately \$9.3 million in cash to Pharmacoepia stockholders. Security holders of Pharmacoepia also received contingent value rights under which Ligand could be required to make an aggregate cash payment of \$15.0 million to such security holders under certain circumstances. Ligand may also under certain circumstances be required to make cash payments to former stockholders of Neurogen Corporation pursuant to contingent value rights, if Ligand's pending acquisition of Neurogen Corporation is completed.

Ligand believes that its capital resources, including its currently available cash, cash equivalents, and short-term investments as well as its current and future royalty revenues, will be adequate to fund its operations at their current levels at least for the next twelve months. However, changes may occur that would cause Ligand to consume available capital resources before that time. Examples of relevant potential changes that could impact Ligand's capital resources include:

the costs associated with Ligand's drug research and development activities, and additional costs Ligand may incur if its development programs are delayed or are more expensive to implement than Ligand currently anticipates;

changes in existing collaborative relationships, including the funding Ligand receives in connection with those relationships;

the progress of Ligand's milestone and royalty producing activities;

acquisitions of other businesses or technologies;

the termination of Ligand's lease agreements;

the purchase of additional capital equipment;

cash payments or refunds Ligand may be required to make pursuant to certain agreements with third parties;

competing technological and market developments; and

the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights, and the outcome of related litigation.

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Additional capital may not be available on favorable terms, or at all. If additional capital is not available, Ligand may be required to curtail operations significantly or to obtain funds by entering into arrangements with partners or other third parties that may require Ligand to relinquish rights to certain of its technologies, products or potential markets that it would not otherwise relinquish.

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If, as the result of a merger, or otherwise, Ligand's collaborative partners were to change their strategy or the focus of their development and commercialization efforts with respect to Ligand's alliance products, the success of Ligand's alliance products could be adversely affected.

Ligand's collaborative partners may change the focus of their development and commercialization efforts as the result of a merger. Pharmaceutical and biotechnology companies have historically re-evaluated their priorities from time to time, including following mergers and consolidations which are common in these industries, and two of Ligand's collaborative partners have recently entered into merger agreements. In October 2009, Wyeth, a collaborative partner of Ligand, and Pfizer Inc. announced that Pfizer Inc. had completed its acquisition of Wyeth in a cash and stock transaction. Furthermore, in March 2009, Schering-Plough Corporation, another of Ligand's collaborative partners, and Merck & Co., Inc., or Merck, announced that their boards of directors unanimously approved a definitive merger agreement pursuant to which Merck and Schering-Plough will combine, under the name Merck, in a stock and cash transaction. As a result of the consummation of these mergers Ligand's collaborative partners may develop and commercialize, either alone or with others, products and services that are similar to or competitive with Ligand's alliance products. Furthermore, the ability of Ligand's alliance products to reach their potential could be limited if its collaborative partners reduce or fail to increase spending related to such products as a result of these mergers.

If Ligand's collaborative partners terminate their collaborations with Ligand or do not commit sufficient resources to the development, manufacture, marketing or distribution of Ligand's alliance products, Ligand could be required to devote additional resources to its alliance products, seek new collaborative partners or abandon such alliance products, all of which could have an adverse effect on Ligand's business.

Third party intellectual property may prevent Ligand or its partners from developing Ligand's potential products and Ligand may owe a portion of any payments it receives from its collaborative partners to one or more third parties.

Ligand's success will depend on its ability and the ability of its collaborative partners to avoid infringing the proprietary rights of others, both in the United States and in foreign countries. In addition, disputes with licensors under Ligand's license agreements may arise which could result in additional financial liability or loss of important technology and potential products and related revenue, if any. Further, the manufacture, use or sale of Ligand's potential products or its collaborative partners' products or potential products may infringe the patent rights of others. This could impact AVINZA, PROMACTA, bazedoxifene, lasofoxifene, LGD-4665, PS433540, PS031291 and any other products or potential products.

Several drug companies and research and academic institutions have developed technologies, filed patent applications or received patents for technologies that may be related to Ligand's business. Others have filed patent applications and received patents that conflict with patents or patent applications Ligand has licensed for Ligand's use, either by claiming the same methods or compounds or by claiming methods or compounds that could dominate those licensed to Ligand. In addition, Ligand may not be aware of all patents or patent applications that may impact its ability to make, use or sell any of its potential products. For example, US patent applications may be kept confidential while pending in the United States Patent and Trademark Office and patent applications filed in foreign countries are often first published six months or more after filing.

On March 4, 2008, The Rockefeller University, or Rockefeller, filed suit in the United States District Court for the Southern District of New York, against Ligand alleging, among other things, a breach by Ligand of its September 30, 1992 license agreement with Rockefeller, as well as other causes of action for unjust enrichment, quantum meruit, specific performance to perform an audit and declaratory relief. In February 2009 Ligand reached a settlement with Rockefeller whereby the parties resolved all disputes that have arisen between them, including Rockefeller's primary claim relating to the development of PROMACTA as well as Ligand's counterclaims.

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Other possible disagreements or litigation with Ligand's collaborative partners could delay Ligand's ability and the ability of its collaborative partners to achieve milestones or Ligand's receipt of other payments. In addition, other possible disagreements or litigation could delay, interrupt or terminate the research, development and commercialization of certain potential products being developed by either Ligand's collaborative partners or by Ligand. The occurrence of any of the foregoing problems could be time-consuming and expensive and could adversely affect Ligand's business.

Third parties have not directly threatened an action or claim against Ligand, although it does periodically receive other communications or has other conversations with the owners of other patents or other intellectual property. If others obtain patents with conflicting claims, Ligand may be required to obtain licenses to those patents or to develop or obtain alternative technology. Ligand may not be able to obtain any such licenses on acceptable terms, or at all. Any failure to obtain such licenses could delay or prevent Ligand from pursuing the development or commercialization of its potential products.

In general, litigation claims can be expensive and time consuming to bring or defend against and could result in settlements or damages that could significantly impact Ligand's results of operations and financial condition. Ligand cannot predict or determine the outcome of these matters or reasonably estimate the amount or range of amounts of any fines or penalties that might result from a settlement or an adverse outcome. However, a settlement or an adverse outcome could have a material adverse effect on Ligand's financial position, liquidity and results of operations.

Ligand may not be able to hire and/or retain key employees.

If Ligand is unable to hire and/or retain key employees, it may not have sufficient resources to successfully manage its assets or its business, and it may not be able to perform its obligations under various contracts and commitments. Furthermore, there can be no assurance that Ligand will be able to retain all of Pharmacoceia's key management and scientific personnel. If Ligand fails to retain such key employees, it may not realize the anticipated benefits of the Pharmacoceia merger. Either of these could have substantial negative impacts on Ligand's business and its stock price.

Ligand's stock price has been volatile and could experience a sudden decline in value.

Ligand's common stock has experienced significant price and volume fluctuations and may continue to experience volatility in the future. As a result, stockholders may not be able to sell their shares quickly or at the latest market price if trading in Ligand's stock is not active or the volume is low. Many factors may have a significant impact on the market price of Ligand's common stock, including, but not limited to, the following factors: results of or delays in Ligand's preclinical studies and clinical trials; the success of Ligand's collaboration agreements; publicity regarding actual or potential medical results relating to products under development by Ligand or others; announcements of technological innovations or new commercial products by Ligand or others; developments in patent or other proprietary rights by Ligand or others; comments or opinions by securities analysts or major stockholders; future sales of Ligand's common stock by existing stockholders; regulatory developments or changes in regulatory guidance; litigation or threats of litigation; economic and other external factors or other disaster or crises; the departure of any of Ligand's officers, directors or key employees; period-to-period fluctuations in financial results; and limited daily trading volume.

The Financial Industry Regulatory Authority, or FINRA (formerly the National Association of Securities Dealers, Inc.), NASDAQ and the SEC have adopted certain new rules. If Ligand were unable to continue to comply with the new rules, it could be delisted from trading on Nasdaq, and thereafter trading in its common stock, if any, would be conducted through the over-the-counter market or on the Electronic Bulletin Board of FINRA. As a consequence of such delisting, an investor would likely find it more difficult to dispose of, or to obtain quotations as to the price of, Ligand's common stock. Delisting of Ligand's common stock could also result in lower prices per share of its common stock than would otherwise prevail.

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Ligand may not be successful in entering into additional out-license agreements on favorable terms, which may adversely affect Ligand's liquidity or require it to alter development plans on its products.

Ligand has entered into several out-licensing agreements for the development and commercialization of its products. Although Ligand expends considerable resources on internal research and development for its proprietary programs, it may not be successful in entering into additional out-licensing agreements under favorable terms due to several factors including:

the difficulty in creating valuable product candidates that target large market opportunities;

research and spending priorities of potential licensing partners;

willingness of and the resources available to pharmaceutical and biotechnology companies to in-license product candidates for their clinical pipelines; or

differences of opinion with potential partners on the valuation of products Ligand is seeking to out-license.

The inability to enter into out-licensing agreements under favorable terms and to earn milestone payments, license fees and/or upfront fees may adversely affect Ligand's liquidity and may force Ligand to curtail or delay development of some or all of its proprietary programs, which in turn may harm its business and the value of its stock.

Ligand's product development involves a number of uncertainties, and Ligand may never generate sufficient collaborative payments and royalties from the development of products to become profitable.

Ligand was founded in 1987. Ligand has incurred significant losses since its inception. As of September 30, 2009, Ligand's accumulated deficit was \$684.6 million.

Most of Ligand's products in development will require extensive additional development, including preclinical testing and human studies, as well as regulatory approvals, before they can be marketed. Ligand cannot predict if or when any of the products it is developing or those being developed with its partners will be approved for marketing. There are many reasons why Ligand or its collaborative partners may fail in their efforts to develop their potential products, including the possibility that: preclinical testing or human studies may show that their potential products are ineffective or cause harmful side effects; the products may fail to receive necessary regulatory approvals from the FDA or foreign authorities in a timely manner, or at all; the products, if approved, may not be produced in commercial quantities or at reasonable costs; the products, if approved, may not achieve commercial acceptance; regulatory or governmental authorities may apply restrictions to the products, which could adversely affect their commercial success; or the proprietary rights of other parties may prevent Ligand or its partners from marketing the products.

Any product development failures for these or other reasons, whether with Ligand's products or its partners' products, may reduce Ligand's expected revenues, profits, and stock price.

Any future material weaknesses or deficiencies in Ligand's internal control over financial reporting could harm stockholder and business confidence on its financial reporting, its ability to obtain financing and other aspects of its business.

While no material weaknesses were identified as of September 30, 2009, Ligand cannot assure you that material weaknesses will not be identified in future periods. The existence of one or more material weakness or significant deficiency could result in errors in Ligand's consolidated financial statements. Substantial costs and resources may be required to rectify any internal control deficiencies. If Ligand fails to achieve and maintain the adequacy of its internal controls in accordance with applicable standards, it may be unable to conclude on an ongoing basis that it has effective internal controls over financial reporting. If Ligand cannot produce reliable financial reports, its business and financial condition could be harmed, investors could lose confidence in its

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reported financial information, or the market price of its stock could decline significantly. In addition, Ligand's ability to obtain additional financing to operate and expand its business, or obtain additional financing on favorable terms, could be materially and adversely affected, which, in turn, could materially and adversely affect its business, its financial condition and the market value of its securities. Moreover, Ligand's reputation with customers, lenders, investors, securities analysts and others may be adversely affected.

Challenges to or failure to secure patents and other proprietary rights may significantly hurt Ligand's business.

Ligand's success will depend on its ability and the ability of its licensors to obtain and maintain patents and proprietary rights for its potential products both in the United States and in foreign countries. Patents may not be issued from any of these applications currently on file, or, if issued, may not provide sufficient protection. Ligand's patent position, like that of many biotechnology and pharmaceutical companies, is uncertain and involves complex legal and technical questions for which important legal principles are unresolved. Ligand may not develop or obtain rights to products or processes that are patentable. Even if Ligand does obtain patents, such patents may not adequately protect the technology Ligand owns or has licensed. In addition, others may challenge, seek to invalidate, infringe or circumvent any patents Ligand owns or licenses and rights Ligand receives under those patents may not provide competitive advantages to Ligand.

Any conflicts resulting from the patent rights of others could significantly reduce the coverage of Ligand's patents and limit its ability to obtain meaningful patent protection. Ligand has had and will continue to have discussions with its current and potential collaborative partners regarding the scope and validity of its patents and other proprietary rights. If a collaborative partner or other party successfully establishes that Ligand's patent rights are invalid, Ligand may not be able to continue its existing collaborations beyond their expiration. Any determination that Ligand's patent rights are invalid also could encourage its collaborative partners to seek early termination of their agreements. Such invalidation could adversely affect Ligand's ability to enter into new collaborations.

Ligand may also need to initiate litigation, which could be time-consuming and expensive, to enforce its proprietary rights or to determine the scope and validity of others' rights. If litigation occurs, a court may find Ligand's patents or those of its licensors invalid or may find that Ligand has infringed on a competitor's rights. In addition, if any of Ligand's competitors has filed patent applications in the United States which claim technology Ligand also has invented, the United States Patent and Trademark Office may require Ligand to participate in expensive interference proceedings to determine who has the right to a patent for the technology.

Ligand also relies on unpatented trade secrets and know-how to protect and maintain its competitive position. Ligand requires its employees, consultants, collaborative partners and others to sign confidentiality agreements when they begin their relationship with Ligand. These agreements may be breached, and Ligand may not have adequate remedies for any breach. In addition, Ligand's competitors may independently discover its trade secrets.

Ligand will have continuing obligations to indemnify the buyers of its commercial product lines, and may be subject to other liabilities related to the sale of Ligand's commercial product lines.

Ligand has agreed to indemnify Eisai, the purchaser of its Oncology product line, for damages suffered by Eisai arising from any breach of Ligand's representations, warranties, covenants or obligations in the asset purchase agreement. Ligand's obligation to indemnify Eisai extends beyond the closing of the sale of its Oncology product line in October 2006 up to, in some cases, 36 months and, in other cases, until the expiration of the applicable statute of limitations. In a few instances, Ligand's obligation to indemnify Eisai survives in perpetuity.

Under the asset purchase agreements, Ligand's exposure for any indemnification claim brought by Eisai is limited to \$30.0 million. However, in certain matters, Ligand's indemnification obligation is not subject to the

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foregoing limits on liability. For example, Ligand is obligated to indemnify King, without limitation, for all liabilities arising under certain agreements with Catalent Pharma Solutions related to the manufacture of AVINZA. Similarly, Ligand is obligated to indemnify Eisai, without limitation, for all liabilities related to certain claims regarding promotional materials for the ONTAK and Targretin drug products. Ligand cannot predict the liabilities that may arise as a result of these matters. Any claims related to Ligand's indemnification obligations to Eisai could materially and adversely affect Ligand's financial condition.

As previously disclosed, in connection with the AVINZA sale transaction, King assumed Ligand's obligation to make payments to Organon based on net sales of AVINZA (the fair value of which was \$57.3 million as of September 30, 2009). As Organon did not consent to the legal assignment of the co-promote termination obligation from Ligand to King, Ligand remains liable to Organon in the event King defaults on this obligation. Any requirement to pay a material amount to Organon, could adversely affect Ligand's business and the price of its securities.

The sale of Ligand's commercial product lines does not relieve it of exposure to product liability risks on products it sold before divesting these product lines. For example, such products may need to be recalled to address regulatory issues. A successful product liability claim or series of claims brought against Ligand could result in payment of significant amounts of money and divert management's attention from running Ligand's business.

Ligand believes that it carries reasonably adequate insurance for product liability claims. However, Ligand may not be able to maintain its insurance on commercially reasonable terms, or its insurance may not provide adequate protection in the case of a product liability claim. To the extent that product liability insurance, if available, does not cover potential claims, Ligand will be required to self-insure the risks associated with such claims.

If Ligand's partners do not reach the market with Ligand's alliance products before Ligand's competitors offer products for the same or similar uses, or if Ligand's partners are not effective in marketing Ligand's alliance products, Ligand's revenues from product sales, if any, will be reduced.

Ligand faces intense competition in its development activities. Ligand's competitors might succeed in obtaining regulatory approval for competitive products more rapidly than Ligand's partners can for Ligand's products. In addition, competitors might develop technologies and products that are less expensive and perceived to be safer or more effective than those being developed by Ligand or its partners, which could impair Ligand's product development and render its technology obsolete.

Ligand uses hazardous materials, which may expose it to significant liability.

In connection with Ligand's research and development activities, Ligand handles hazardous materials, chemicals and various radioactive compounds. To properly dispose of these hazardous materials in compliance with environmental regulations, Ligand is required to contract with third parties. Ligand believes that it carries reasonably adequate insurance for toxic tort claims. However, Ligand cannot eliminate the risk or predict the exposure of accidental contamination or injury from the handling and disposing of hazardous materials, whether by Ligand or its third-party contractors. Any accident in the handling and disposing of hazardous materials may expose Ligand to significant liability.

Ligand's shareholder rights plan and charter documents may hinder or prevent change of control transactions.

Ligand's shareholder rights plan and provisions contained in its certificate of incorporation and bylaws may discourage transactions involving an actual or potential change in Ligand's ownership. In addition, Ligand's board of directors may issue shares of preferred stock without any further action by the stockholders. Such

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restrictions and issuances may have the effect of delaying or preventing a change in Ligand's ownership. If changes in Ligand's ownership are discouraged, delayed or prevented, it would be more difficult for Ligand's current board of directors to be removed and replaced, even if Ligand's stockholders believe that such actions are in the best interests of Ligand and its stockholders.

Ligand may lose some or all of the value of some of its short term investments.

Ligand engages one or more third parties to manage some of its cash consistent with an investment policy that allows a range of investments and maturities. The investments are intended to maintain safety of principal while providing liquidity adequate to meet projected cash requirements. Risks of principal loss are to be minimized through diversified short and medium term investments of high quality, but the investments are not in every case guaranteed or fully insured. As a result of recent changes in the credit market, one of Ligand's short term investments in commercial paper is in default. Ligand intends to pursue collection efforts, but it might not recoup some or all of its investment in the commercial paper. In addition, from time to time Ligand may suffer other losses on its short term investment portfolio.

Ligand may require additional money to run its business and may be required to raise this money on terms which are not favorable to it or which reduce its stock price.

Ligand may need to complete additional equity or debt financings to fund its operations. Ligand's inability to obtain additional financing could adversely affect its business. Financings may not be available at all or on terms favorable to Ligand. In addition, these financings, if completed, may not meet Ligand's capital needs and could result in substantial dilution to its stockholders.

If adequate funds are not available, Ligand may be required to delay, reduce the scope of or eliminate one or more of its research or drug development programs. Ligand may also be required to liquidate its business or file for bankruptcy protection. Alternatively, Ligand may be forced to attempt to continue development by entering into arrangements with collaborative partners or others that require it to relinquish some or all of its rights to technologies or drug candidates that it would not otherwise relinquish.

Ligand's drug development programs will require substantial additional future funding which could hurt its operational and financial condition.

Ligand's drug development programs require substantial additional capital to successfully complete them, arising from costs to: conduct research, preclinical testing and human studies; establish pilot scale and commercial scale manufacturing processes and facilities; and establish and develop quality control, regulatory, marketing, sales and administrative capabilities to support these programs.

Ligand's future operating and capital needs will depend on many factors, including: the pace of scientific progress in Ligand's research and development programs and the magnitude of these programs; the scope and results of preclinical testing and human studies; the time and costs involved in obtaining regulatory approvals; the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims; competing technological and market developments; Ligand's ability to establish additional collaborations; changes in Ligand's existing collaborations; the cost of manufacturing scale-up; and the effectiveness of Ligand's commercialization activities.

Ligand expects its research and development expenditures over the next three years to continue to be significant. However, Ligand bases its outlook regarding the need for funds on many uncertain variables. Such uncertainties include regulatory approvals, the timing of events outside Ligand's direct control such as product launches by partners and the success of such product launches, negotiations with potential strategic partners,

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possible sale of assets or other transactions and other factors. Any of these uncertain events can significantly change Ligand's cash requirements.

While Ligand expects to fund its research and development activities primarily from cash generated from AVINZA and PROMACTA royalties and royalties and milestones from Ligand's partners in various past and future collaborations to the extent possible, if Ligand is unable to do so, it may need to complete additional equity or debt financings or seek other external means of financing. These financings could depress Ligand's stock price. If additional funds are required to support Ligand's operations and it is unable to obtain them on terms favorable to Ligand, Ligand may be required to cease or reduce further development or commercialization of its products, to sell some or all of its technology or assets or to merge with another entity.

Significant returns of products Ligand sold before selling its commercial businesses could harm its operating results.

Under Ligand's agreements to sell its commercial businesses, Ligand remains financially responsible for returns of its products sold before those businesses were transferred to their respective buyers. Consequently, if returns of those products are higher than expected, Ligand could incur substantial expenses for processing and issuing refunds for those returns which, in turn, could negatively impact Ligand's financial results. The amount of returns could be affected by a number of factors including, but not limited to, ongoing product demand, product rotation at distributors and wholesalers, and product stability issues.

Ligand's results of operations and liquidity needs could be materially negatively affected by market fluctuations and economic downturn.

Ligand's results of operations could be materially negatively affected by economic conditions generally, both in the U.S. and elsewhere around the world. Continuing concerns over inflation, energy costs, geopolitical issues, the availability and cost of credit, the U.S. mortgage market and a declining residential real estate market in the U.S. have contributed to increased volatility and diminished expectations for the economy and the markets going forward. These factors, combined with volatile oil prices, declining business and consumer confidence and increased unemployment, have precipitated an economic recession and fears of a possible depression. Domestic and international equity markets continue to experience heightened volatility and turmoil. These events and the continuing market upheavals may have an adverse effect on Ligand. In the event of a continuing market downturn, Ligand's results of operations could be adversely affected by those factors in many ways, including making it more difficult for Ligand to raise funds if necessary, and Ligand's stock price may further decline.

Ligand's investment securities consist primarily of money market funds, corporate debt obligations and U.S. government agency securities. Ligand does not have any auction rate securities. Recently, there has been concern in the credit markets regarding the value of a variety of mortgage-backed securities and the resultant effects on various securities markets. Ligand cannot provide assurance that its investments are not subject to adverse changes in market value. If Ligand's investments experience adverse changes in market value, Ligand may have less capital to fund its operations.

Ligand may be unable to successfully integrate the business of Pharmacoepia and realize the anticipated benefits of the merger.

In December 2008, Ligand completed its merger with Pharmacoepia. The success of the merger will depend, in part, on Ligand's ability to realize the anticipated synergies, growth opportunities and cost savings from integrating Pharmacoepia's business with Ligand's business. Ligand's success in realizing these benefits and the timing of this realization depend upon the successful integration of the operations of Pharmacoepia. The integration of two independent companies is a complex, costly and time-consuming process. It is possible that the integration process could result in the loss of key employees, diversion of each company's management's attention, the disruption or interruption of, or the loss of momentum in, each company's ongoing business or

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inconsistencies in standards, controls, procedures and policies, any of which could adversely affect either company's ability to maintain relationships with licensors, collaborators, partners, suppliers and employees or Ligand's ability to achieve the anticipated benefits of the merger, or could reduce Ligand's earnings or otherwise adversely affect the business and financial results of the combined company and, as a result, adversely affect the market price of Ligand's common stock.

Ligand expects to incur significant costs and commit significant management time integrating Pharmacoepia's business operations, technology, development programs, products and personnel with those of Ligand. If Ligand does not successfully integrate the business of Pharmacoepia, the expenditure of these costs will reduce Ligand's cash position.

Impairment charges pertaining to goodwill, identifiable intangible assets or other long-lived assets from the merger with Pharmacoepia could have an adverse impact on Ligand's results of operations and the market value of Ligand's common stock.

The total purchase price pertaining to Ligand's merger with Pharmacoepia has been allocated to Pharmacoepia's net tangible assets, identifiable intangible assets, in process research and development and goodwill. To the extent the value of goodwill or identifiable intangible assets or other long-lived assets become impaired, Ligand will be required to incur material charges relating to the impairment. Any impairment charges could have a material adverse impact on Ligand's results of operations and the market value of its common stock. A similar risk would pertain to any other acquisition Ligand makes.

Ligand may undertake strategic acquisitions in the future (including an acquisition of Neurogen Corporation) and any difficulties from integrating such acquisitions could adversely affect Ligand's stock price, operating results and results of operations.

Ligand may acquire companies, businesses and products that complement or augment Ligand's existing business. Ligand may not be able to integrate any acquired business successfully or operate any acquired business profitably. Integrating any newly acquired business could be expensive and time-consuming. Integration efforts often take a significant amount of time, place a significant strain on managerial, operational and financial resources and could prove to be more difficult or expensive than Ligand predicts. The diversion of Ligand's management's attention and any delay or difficulties encountered in connection with any future acquisitions Ligand may consummate could result in the disruption of Ligand's on-going business or inconsistencies in standards and controls that could negatively affect Ligand's ability to maintain third-party relationships. Moreover, Ligand may need to raise additional funds through public or private debt or equity financing, or issue additional shares, to acquire any businesses or products, which may result in dilution for stockholders or the incurrence of indebtedness.

As part of Ligand's efforts to acquire companies, business or product candidates or to enter into other significant transactions, Ligand conducts business, legal and financial due diligence with the goal of identifying and evaluating material risks involved in the transaction. Despite Ligand's efforts, it ultimately may be unsuccessful in ascertaining or evaluating all such risks and, as a result, might not realize the intended advantages of the transaction. If Ligand fails to realize the expected benefits from acquisitions it may consummate in the future, whether as a result of unidentified risks, integration difficulties, regulatory setbacks and other events, Ligand's business, results of operations and financial condition could be adversely affected. If Ligand acquires product candidates, it will also need to make certain assumptions about, among other things, development costs, the likelihood of receiving regulatory approval and the market for such product candidates. Ligand's assumptions may prove to be incorrect, which could cause it to fail to realize the anticipated benefits of these transactions.

In addition, Ligand will likely experience significant charges to earnings in connection with its efforts, if any, to consummate acquisitions. These charges may include fees and expenses for investment bankers, attorneys, accountants and other advisors in connection with Ligand's efforts. In addition, if Ligand's efforts are

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successful, it may incur, as part of a transaction, substantial charges for closure costs associated with elimination of duplicate operations and facilities and acquired in-process research and development charges. In either case, the incurrence of these charges could adversely affect Ligand's results of operations for particular quarterly or annual periods.

The above risks may all apply with regard to Ligand's planned acquisition of Neurogen Corporation, which is scheduled to be completed (subject to the satisfaction or waiver of closing conditions) in December 2009.

The drug research and development industry is highly competitive and subject to technological change, and Ligand may not have the resources necessary to compete successfully.

Many of Ligand's competitors have access to greater financial, technical, research, marketing, sales, reputation, distribution, service and other resources than Ligand does. Moreover, the pharmaceutical and biotechnology industries are characterized by continuous technological innovation. Ligand anticipates that it will face increased competition in the future as new companies enter the market and its competitors make advanced technologies available. Technological advances or entirely different approaches that Ligand or one or more of its competitors develop may render Ligand's products, services and expertise obsolete or uneconomical. Additionally, the existing approaches of Ligand's competitors or new approaches or technologies that its competitors develop may be more effective than those Ligand develops. Ligand may not be able to compete successfully with existing or future competitors.

Ligand has excess space available for sublease at its facilities and it may not be able to find qualified sublease tenants.

Ligand has, as a result of its acquisition of Pharmacopeia, long-term, non-cancellable real estate arrangements for space which is considered to be in excess of Ligand's current requirements. Ligand currently is actively looking for additional sublease tenants to sublease up to approximately 80,000 square feet of vacant space or space that could be made available through changes in the current layout of Ligand's operations. Ligand will continue to be responsible for all carrying costs of these facilities until such time as it can sublease these facilities or terminate the applicable leases based on the contractual terms of the lease agreements. However, the commercial real estate market conditions in the United States have resulted in a surplus of business facilities making it difficult to sublease properties. If Ligand is unable to find additional sublease tenants it may not meet its expected estimated levels of sublease income or it may be required to terminate these leases at a substantial cost, and, accordingly, its results of operations could be materially and adversely affected.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This proxy statement/prospectus and the documents incorporated by reference into this proxy statement/prospectus contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties, as well as assumptions, that, if they never materialize or prove incorrect, could cause the results of Ligand, Metabasis or the combined company to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements generally are identified by the words may, will, project, might, expects, anticipates, believes, intends, estimates, should, could, would, strategy, p negative of these words or other words or expressions of similar meaning. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. For example, forward-looking statements include statements about Ligand s and Metabasis future financial and operating results, plans, expectations for potential research and development payments, cash burn rates, timing of achieving positive cash flow, potential revenue and profits of a combined company, costs and expenses, interest rates, outcome of contingencies, business strategies and cost savings; any statements of the plans, strategies and objectives of management for future operations, including the execution of integration and restructuring plans and the anticipated timing of filings, approvals and the closing related to the merger; any statements concerning Ligand s and Metabasis product candidates and product development; any statements regarding future economic conditions or performance; statements of belief and any statement of assumptions underlying any of the foregoing. The risks, uncertainties and assumptions referred to above include the risk that the merger may not close, including the risk that the required Metabasis stockholder approval for the merger and related transactions may not be obtained; the possibility that expected synergies and cost savings will not be obtained or that litigation may delay the merger; the difficulty of integrating the business of the two companies; as well as the reliance on collaborative partners for milestone and royalty payments, regulatory hurdles facing product candidates, uncertain product development costs, disputes regarding ownership of intellectual property, and the commercial performance of any approved products; and other risks and uncertainties described in the section entitled Risk Factors and in the documents that are incorporated by reference into this proxy statement/prospectus. You should note that the discussion of Ligand s and Metabasis reasons for the merger and the description of Metabasis financial advisor s opinion contain forward-looking statements that describe beliefs, assumptions and estimates as of the indicated dates and those forward-looking expectations may have changed as of the date of this proxy statement/prospectus.

If any of these risks or uncertainties materialize or any of these assumptions prove incorrect, the results of Ligand, Metabasis or the combined company could differ materially from the expectations in these statements. The forward-looking statements included in this proxy statement/prospectus are made only as of the date of this proxy statement/prospectus, and neither Ligand nor Metabasis is under any obligation to update their respective forward-looking statements and neither party intends to do so.

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THE COMPANIES

Ligand Pharmaceuticals Incorporated

Ligand Pharmaceuticals Incorporated (NASDAQ: LGND), a Delaware corporation, is a biotechnology company that focuses on discovering and developing new drugs that address critical unmet medical needs in the areas of thrombocytopenia, anemia, cancer, hormone related diseases, osteoporosis and inflammatory diseases. Ligand aims to develop drugs that are more effective and/or safer than existing therapies, that are more convenient to administer and that are cost effective. Ligand plans to build a profitable company by generating income from research, milestone and royalty and co-promotion revenues resulting from its collaborations with pharmaceutical partners.

Additional information regarding Ligand is contained in Ligand's filings with the SEC.

Ligand was incorporated in Delaware in 1987. Ligand's principal executive offices are located at 11085 North Torrey Pines Road, Suite 300, La Jolla, California 92037. Ligand's telephone number is (858) 550-7500.

Moonstone Acquisition, Inc.

Moonstone Acquisition, Inc., or Merger Sub, is a Delaware corporation and a wholly-owned subsidiary of Ligand organized in October 2009. Merger Sub does not engage in any operations and exists solely to facilitate the merger. Its principal executive offices have the same address and telephone number as Ligand's.

Metabasis Therapeutics, Inc.

Metabasis Therapeutics, Inc. (NASDAQ: MBRX) is a biopharmaceutical company that has developed a pipeline of novel drugs for metabolic diseases using Metabasis' proprietary technology and its knowledge of processes and pathways within the liver that are useful for liver-selective drug targeting and treatment of metabolic diseases. Metabasis' product pipeline includes product candidates and advanced discovery programs for the treatment of metabolic and liver diseases such as diabetes, hyperlipidemia, hepatitis and primary liver cancer.

Additional information regarding Metabasis is contained in the section entitled "Metabasis Business" and in Metabasis' filings with the SEC.

Metabasis was incorporated in Delaware in April 1997. Metabasis' principal executive offices are located at 11119 North Torrey Pines Road, La Jolla, California 92037. Metabasis' telephone number is (858) 587-2770.

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THE SPECIAL MEETING OF METABASIS STOCKHOLDERS

General

Metabasis is furnishing this proxy statement/prospectus to Metabasis stockholders in connection with the solicitation of proxies by the Metabasis board of directors for use at the special meeting of stockholders, including any adjournment or postponement of the special meeting.

Date, Time and Place

Metabasis will hold its special meeting on January 27, 2010 at 10:00 a.m., local time, at the offices of Cooley Godward Kronish LLP, located at 4401 Eastgate Mall, San Diego, California 92121.

Purpose of the Meeting

At the special meeting, the Metabasis stockholders will be asked to consider and vote upon the following matters:

A proposal to adopt the Agreement and Plan of Merger, dated as of October 26, 2009 (and as amended), by and among Ligand Pharmaceuticals Incorporated, Moonstone Acquisition, Inc., a wholly owned subsidiary of Ligand, Metabasis stockholders representative and Metabasis, and approve the merger contemplated by the merger agreement. A copy of the merger agreement is attached as *Annex A* to this proxy statement/prospectus accompanying this notice;

A proposal to adjourn the special meeting to a later date or dates, if necessary, to permit further solicitation of proxies if there are not sufficient votes at the time of the special meeting to adopt the merger agreement and approve the merger; and

To transact such other business as may properly come before the special meeting and any adjournments or postponements thereof.

Quorum Required

Metabasis bylaws provide that the holders of a majority of the shares of Metabasis common stock issued and outstanding and entitled to vote at the special meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business at the special meeting. Abstentions and broker non-votes will be counted as present for the purpose of determining the presence of a quorum. In the event that a quorum is not present at the special meeting, the special meeting may be adjourned or postponed to solicit additional proxies.

Voting Rights

Metabasis common stock is the only type of security entitled to vote at the special meeting. On December 22, 2009, the record date for determination of stockholders entitled to vote at the special meeting, there were 35,168,235 shares of Metabasis common stock outstanding. Each Metabasis stockholder of record on December 22, 2009 is entitled to one vote for each share of Metabasis common stock held by such stockholder on that date. All votes will be tabulated by the inspector of election appointed for the meeting, who will separately tabulate affirmative and negative votes, abstentions and broker non-votes.

Proxies

Whether or not you are able to attend Metabasis special meeting of stockholders, you are urged to complete and return the enclosed proxy, which is solicited by Metabasis board of directors and which will be voted as you direct on your proxy card when properly completed. In the event no directions are specified, executed proxies will be voted **FOR** the adoption of the merger agreement and approval of the merger, **FOR** the proposal to

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adjourn the special meeting to permit further solicitation of proxies if there are not sufficient votes to adopt the merger agreement and approve the merger, and, in the discretion of the proxy holders, as to any other matters that may properly come before the special meeting. All shares represented by a valid proxy received before the special meeting will be voted.

Revocation of Proxies

You may also revoke or change your proxy at any time before the special meeting. To do this, send a written notice of revocation or another signed proxy with a later date to the Secretary at Metabasis' principal executive offices in time to be received before the beginning of the special meeting. You may also revoke your proxy by attending the special meeting and voting in person.

Metabasis Votes Required

The affirmative vote of the holders of record of a majority of the outstanding shares of Metabasis common stock is required to adopt the merger agreement and approve the merger, and the affirmative vote of the holders of record of a majority of the shares of Metabasis common stock present and entitled to vote at the special meeting is required to adopt the proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies. If a broker or other nominee holding shares of Metabasis common stock or a holder of Metabasis common stock fails to vote on the adoption of the merger agreement and the approval of the merger or responds to that proposal with an "abstain" vote, it will have the same effect as a vote against that proposal. If a broker or other nominee holding shares of Metabasis common stock or a holder of Metabasis common stock responds to the proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies with an "abstain" vote, it will have the same effect as a vote against that proposal. If a broker or other nominee holding Metabasis common stock or a holder of Metabasis common stock fails to vote on the proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies, it will have no effect on the outcome of the vote for that proposal.

As of October 26, 2009, (i) the directors and executive officers of Metabasis beneficially owned approximately 10,199,000 shares of Metabasis common stock, representing approximately 28.9% of the outstanding shares of Metabasis common stock and (ii) Ligand and its affiliates beneficially owned approximately 10,199,000 shares of Metabasis common stock, representing approximately 28.9% of the outstanding shares of Metabasis common stock. However, due to the voting agreements described below, approximately 28.9% of the outstanding shares of Metabasis common stock are included in both groups; and so, the aggregate total beneficially owned is approximately 28.9%.

MPM Asset Management Investors 2000 B LLC, MPM BioVentures II, L.P., MPM BioVentures II-QP, L.P., MPM BioVentures GMBH&Co Parallel- Beteiligungs KG, InterWest Partners VII, L.P., InterWest Investors VII, L.P. and all the directors and officers of Metabasis as of October 26, 2009, who as of that date collectively owned approximately 28.9% of the outstanding shares of Metabasis common stock, have entered into voting agreements with Ligand pursuant to which such stockholders have agreed, among other things, to vote the shares of common stock of Metabasis owned by them in favor of adopting the merger agreement and approving the merger. For a description of the voting agreements, see "Certain Terms of the Merger Agreement - Voting Agreements" beginning on page 101 of this proxy statement/prospectus.

Recommendation of Metabasis' Board of Directors

The board of directors of Metabasis has determined and believes that the merger agreement and the merger are advisable for, and in the best interests of, Metabasis and its stockholders and has approved such items. The board of directors of Metabasis unanimously recommends that Metabasis stockholders vote **FOR** adoption of the merger agreement and approval of the merger.

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The board of directors of Metabasis unanimously recommends that Metabasis stockholders vote **FOR** approval of the possible adjournment or postponement of the special meeting of Metabasis stockholders.

Voting in Person

If you plan to attend Metabasis special meeting and wish to vote in person, you will be given a ballot at the special meeting.

You should submit your completed proxy even if you plan to attend the special meeting. If you are the stockholder of record of your shares of Metabasis common stock, you can change your vote at the special meeting. If you hold shares in street name, you may not vote in person at the special meeting unless you obtain a signed proxy from the record holder giving you the right to vote the shares in person at the meeting.

Your vote is important. Accordingly, please sign and return the enclosed proxy card whether or not you plan to attend the special meeting in person.

Adjournments and Postponements

Although it is not currently expected, the special meeting may be adjourned or postponed to a later date or time, if necessary or appropriate, to solicit additional proxies in the event there are insufficient votes at the time of the special meeting to adopt the merger agreement. Metabasis bylaws provide that notice need not be given of the adjourned meeting if the time and place of the adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting, Metabasis may transact any business that might have been transacted at the original meeting. If the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

Any signed proxies received by Metabasis in which no voting instructions are provided on such matter will be voted **FOR** an adjournment of the special meeting to a later date or time, if necessary or appropriate, to solicit additional proxies in the event there are insufficient votes at the time of the special meeting to adopt the merger agreement, and the transactions contemplated by the merger agreement, including the merger. Whether or not a quorum exists, holders of a majority of the shares of Metabasis common stock present in person or represented by proxy at the special meeting may adjourn the special meeting. Because a majority of the votes represented at the meeting, whether or not a quorum exists, is required to approve the proposal to adjourn the meeting, abstentions will have the same effect on such proposal as a vote **AGAINST** the proposal. Broker non-votes and any shares that are not voted will have no effect on the proposal to adjourn the special meeting. Metabasis stockholders who have already sent in their proxies may revoke them at any time before their use at the special meeting as adjourned or postponed.

Stock Certificates

You should not send in any stock certificates with your proxy card. If you are a Metabasis stockholder, after the merger is completed, a letter of transmittal will be sent to you informing you where to deliver your Metabasis stock certificates in order to receive the merger consideration. You should not send in your Metabasis common stock certificates before receiving this letter of transmittal.

Solicitation of Proxies

Metabasis will bear the cost of this solicitation, including the printing and mailing of this proxy statement/prospectus, the proxy and any additional soliciting material furnished to the Metabasis stockholders. Copies of solicitation material will be furnished to brokerage houses, fiduciaries and custodians holding shares in their names that are beneficially owned by others so that they may forward this solicitation material to such beneficial

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owners. In addition, Metabasis may reimburse such persons for their costs of forwarding the solicitation material to such beneficial owners. The original solicitation of proxies by mail may be supplemented by solicitation by telephone, email, facsimile or other means by directors, officers, employees or agents of Metabasis. No additional compensation will be paid to these individuals for any such services.

Questions and Additional Information

Metabasis stockholders who have questions about the merger, including the procedures for voting their shares of Metabasis common stock, or how to submit their proxy, or who need additional copies, without charge, of this proxy statement/prospectus, should contact:

Metabasis Therapeutics, Inc.

c/o Cooley Godward Kronish LLP

4401 Eastgate Mall

San Diego, California 92121

(858) 550-6000

Availability of Documents

Metabasis documents incorporated by reference (excluding exhibits to those documents unless the exhibit is specifically incorporated by reference into those documents) are being delivered with this proxy statement/prospectus. Additional copies of documents incorporated by reference (excluding exhibits to those documents unless the exhibit is specifically incorporated by reference into those documents) and not also physically delivered with this proxy statement/prospectus will be provided by first class mail without charge to each person to whom this proxy statement/prospectus is delivered upon written or oral request of such person to the Corporate Secretary of Metabasis. In addition, a list of stockholders entitled to vote at the special meeting will be available for inspection at Metabasis principal executive offices at least 10 days before the date of the special meeting and continuing through the special meeting for any purpose germane to the meeting. The list will also be available at the meeting for inspection by any stockholder present in person at the meeting.

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THE MERGER

General

The discussion of the merger in this proxy statement/prospectus and the description of the merger are only summaries of the material features of the proposed merger. Metabasis stockholders can obtain a more complete understanding of the merger by reading the merger agreement and the forms of CVR agreements, copies of which are attached to this proxy statement/prospectus as *Annex A, Annex B, Annex C, Annex D and Annex E*. Metabasis stockholders are encouraged to read the merger agreement and the other annexes to this proxy statement/prospectus in their entirety.

General Description of the Merger

In the merger, Merger Sub will merge with and into Metabasis, with Metabasis continuing as the surviving entity.

Upon completion of the merger, each share of Metabasis common stock will be converted into the right to receive a pro rata portion of a total cash payment equal to \$3,207,500 (cash consideration) less Metabasis estimated net liabilities (as defined in the merger agreement) at closing and also less \$150,000 to be deposited in the Stockholders Representative fund. Metabasis currently estimates the total closing payment to be approximately \$1.8 million in cash.

At the closing of the merger, Ligand, Metabasis and a rights agent will also enter into up to four contingent value rights agreements, or CVR agreements, the forms of which are attached to this proxy statement/prospectus as *Annex B, Annex C, Annex D and Annex E*. The CVR agreements set forth the rights that former Metabasis stockholders will have with respect to each CVR to be held by them after the closing of the merger. Each Metabasis stockholder will receive one CVR (in book-entry form) under each of the four CVR agreements for each share of Metabasis stock held. The CVRs will not be listed on any securities exchange but will be generally tradable, subject to certain procedures as set forth in more detail in this proxy statement/prospectus.

Roche CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Roche CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) 65% of any milestone payments received by Ligand or Metabasis after October 1, 2009 under a collaboration and license agreement with Hoffmann-La Roche Inc. and its affiliates (the Roche Agreement); (ii) 68% of any royalty payments received by Ligand or Metabasis after October 1, 2009 under the Roche Agreement; (iii) 65% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis after October 1, 2009 in connection with a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement); and (iv) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

TR Beta CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the TR Beta CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program (as defined in the TR Beta CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs

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incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the seventh anniversary of the merger and before the eighth anniversary of the merger, or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

Glucagon CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Glucagon CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program (as defined in the Glucagon CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the seventh anniversary of the merger and before the eighth anniversary of the merger or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

General CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the General CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) the amount of any shortfall of Ligand's interim or total \$8 million guaranteed funding obligations under the merger agreement; (ii) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including a licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program if Ligand has by the time of the transaction not made research and/or development investments of at least \$700,000 on such program or (b) 25% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including a licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program, if Ligand has by the time of the transaction made research and/or development investments of at least \$700,000 on such program; (iii) (a) 90% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program (as defined in the General CVR agreement) that occur after October 1, 2009 and within six months after the merger, (b) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the sixth month anniversary of the merger and before the two year anniversary of the merger or (c) 10% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the two year anniversary of the merger and before the ten year anniversary of the merger; (iv) 60% of the aggregate proceeds (less reasonable out of pocket transactional

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expenses and costs incurred by Ligand) received by Ligand in connection with (a) any sale of certain shares of PeriCor Therapeutics, Inc. stock held by Metabasis, (b) any milestone payments or royalty payments payable directly to Ligand or Metabasis pursuant to certain PeriCor Agreements (as defined in the General CVR agreement) or (c) any full or partial sale or transfer of any rights to receive such milestone payments or royalty payments or all or any portion of a drug candidate or technology from the drug development program licensed pursuant to certain PeriCor Agreements; (v) 100% of the cash received by Ligand upon a cash exercise of any of the Metabasis warrants outstanding as of the date of the merger; (vi) 50% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with any sale of Metabasis QM/MM Technology (as defined in the General CVR agreement); and (vii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

For a description of the CVR agreements, see Certain Terms of the Merger Agreement CVR Agreements beginning on page 93 of this proxy statement/prospectus.

Treatment of Stock Options and Warrants

Metabasis board of directors will take, except to the extent that by virtue of existing agreements no action is required, all requisite actions such that each holder of outstanding Metabasis options shall be entitled to exercise in full all Metabasis options held by such holder immediately before the effective time of the merger, and such that all outstanding Metabasis options not exercised before the effective time of the merger shall be terminated and canceled without any payment by Metabasis. No replacement options will be issued.

Metabasis has agreed to use reasonable best efforts to enter into agreements with the holders of outstanding Metabasis warrants to terminate and cancel all such warrants, effective immediately before the effective time of the merger, without any payment or liability on the part of Metabasis. If any Metabasis warrant remains outstanding after the effective time of the merger and the holder thereof exercises such Metabasis warrant before its expiration or termination date, then Ligand shall issue and pay in respect of each such exercised Metabasis warrant, on a per-exercised-share basis, equivalent consideration as is paid in respect of each issued and outstanding share of Metabasis common stock as of immediately before the merger.

See the section entitled Certain Terms of the Merger Agreement Metabasis Stock Options and Warrants beginning on page 78 of this proxy statement/prospectus.

Background of the Merger

Beginning in mid-2007, Metabasis suffered a series of clinical and operational setbacks that led to a significant decline in its market capitalization. In July 2007, Metabasis announced that it had been informed by its strategic collaborator, Daiichi Sankyo, that results from a three-month Phase 2b clinical trial of Metabasis product candidate CS-917 for type 2 diabetes failed to meet the efficacy endpoint established for the trial. At the same time, Metabasis announced that it had been advised by Schering-Plough Corporation of its intention to terminate agreements it entered into with Metabasis and Valeant Pharmaceuticals International in December 2006 for the development and commercialization of Metabasis product candidate pradefovir, due in part to 24-month carcinogenicity studies in mice and rats that found an increased incidence of tumors at higher doses. In October 2007, the research term of Metabasis collaboration agreement with Idenix Pharmaceuticals Inc. to apply Metabasis HepDirect technology to certain Idenix lead compounds with the goal of improving the safety and efficacy of those compounds for treating hepatitis C ended upon the first anniversary of the agreement, and the agreement subsequently terminated in accordance with its terms, with no product candidate designated.

As a result of these events, Metabasis management and board of directors reviewed its strategic plan to determine how best to proceed with key programs which they believed would drive significant value for Metabasis, while also taking steps to slow growth and reduce expenses. In light of its limited financial resources,

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Metabasis planned to focus its internal resources and efforts on its core metabolic disease programs, MB07803 and MB07811, and to establish one or more strategic collaborations to accelerate progress and share risk while conserving capital. A critical component in Metabasis' revised strategy was the partnering of its advanced research program intended to create a glucagon receptor antagonist drug for the treatment of type 2 diabetes. During 2008, Metabasis contacted over 20 different pharmaceutical companies and presented confidential material for this program to approximately nine pharmaceutical companies identified as potential collaborators, of which five engaged in due diligence efforts regarding the Glucagon Program. Two pharmaceutical companies, referred to as Company A and Company B, expressed significant interest in the Glucagon Program following their initial due diligence, and negotiated term sheets with Metabasis during the third quarter of 2008 relating to a potential collaboration for the program. However, following additional due diligence, during the fourth quarter of 2008 both Company A and Company B elected not to proceed further with the collaboration discussions given the early stage of the Glucagon Program and the perceived amount of time necessary to advance any resulting compounds into clinical development.

Although Metabasis was able to enter into a two-year research collaboration agreement with Hoffmann-La Roche Inc., Roche Palo Alto LLC and F. Hoffmann-La Roche Ltd., or Roche, in August 2008, the goal of which was to apply Metabasis' HepDirect technology to Roche's proprietary lead nucleosides in order to develop new treatments for hepatitis C, its inability to complete a collaboration on the Glucagon Program or to derive sufficient funding from its other business development efforts during 2008 led Metabasis' management and board of directors to conclude that a major strategic realignment was necessary. Accordingly, in November 2008, Metabasis announced a restructuring of its operations that resulted in a reduction of 35 employees, or approximately 30% of its then total workforce, and the closing of a satellite facility in Ann Arbor, Michigan. In January 2009, Metabasis announced a second restructuring of its operations that resulted in a reduction of an additional 38 employees, or approximately 43% of its then total workforce. Also, in December 2008, Metabasis announced that Paul Laikind, Ph.D., had resigned as its President and Chief Executive Officer to pursue other opportunities, and that Mark D. Erion, Ph.D., Metabasis' Chief Scientific Officer and Executive Vice President of Research and Development, had been named President, Chief Executive Officer and Chief Scientific Officer.

Following this strategic realignment, in January 2009, Metabasis further revised its operating plan to narrow its research and development focus and increase its efforts to monetize certain of its assets and/or form strategic collaborations to fund its continuing operations. Metabasis planned to utilize a significant portion of its existing resources on a planned Phase 2 clinical trial for MB07811 and to continue to support its collaboration with Roche as well as its ongoing collaboration with Merck & Co., Inc., or Merck, to research, develop and commercialize novel small molecule therapeutics with the potential to treat type 2 diabetes, and potentially other metabolic diseases, by activating an enzyme in the liver called AMP-activated Protein Kinase. Metabasis also committed resources toward the advancement of certain advanced research programs, including the Glucagon Program, which it believed would improve its ability to secure additional financial resources under a collaboration.

At the same time, Metabasis initiated efforts to consider a potential equity financing, and a special committee of the Metabasis board of directors, consisting of Daniel D. Burgess, M.B.A., David F. Hale and William R. Rohn, was appointed to evaluate and review various financing transactions on behalf of the Metabasis board and approve whether to proceed with a transaction and if so, on what terms and conditions. Also, in March 2009, Metabasis announced the hiring of Tran B. Nguyen, M.B.A., an individual with extensive investment banking experience, as Vice President and Chief Financial Officer, and engaged a nationally-recognized investment banking firm to act as exclusive placement agent to Metabasis in connection with a potential financing transaction.

On February 25, 2009, Dr. Erion met with John Higgins, Ligand's President and Chief Executive Officer, and engaged in a high-level discussion of Metabasis and Ligand and whether there might be a potential strategic fit between the two companies. In the week following the meeting, Metabasis and Ligand executed a mutual non-disclosure agreement. On March 9, 2009, a follow-up meeting attended by Dr. Erion, Mr. Nguyen, David Hale (Metabasis' Chairman) and Mr. Higgins was held at Metabasis' offices to further discuss the possibility of a

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transaction involving Metabasis and Ligand. On April 1, 2009, Mr. Nguyen and Mr. Higgins had a brief telephone call to discuss Metabasis financial statements. However, in late April 2009, Metabasis communicated to Ligand that it wished to suspend these discussions regarding a potential transaction in order to allow Metabasis management team to focus on its near term business development efforts and on the financing process then underway.

From March through May 2009, Metabasis exclusive placement agent contacted approximately 80 institutional investors that it believed might be interested in investing in an equity financing of Metabasis. Approximately 20 of the investors contacted by the placement agent held in-person or telephonic follow-up meetings with Metabasis management and representatives of the placement agent. During the same time frame, the special committee of Metabasis board of directors, together with management and Metabasis outside legal counsel, Cooley Godward Kronish LLP, or Cooley, also considered the terms of an alternate private placement transaction proposed by certain major existing investors of Metabasis, and engaged in discussions with such investors regarding the alternate transaction. One institutional investor contacted by the placement agent engaged in extensive due diligence with respect to Metabasis and provided initial positive feedback regarding its interest in leading an equity financing of Metabasis. However, in late May 2009, that institutional investor notified Metabasis that it did not wish to proceed with the financing. It was also determined that there was insufficient interest from the other investors contacted by the exclusive placement agent in participating in an equity financing of Metabasis, and that the major existing investors in Metabasis were no longer willing to provide additional equity funding.

Due to its difficulty in raising sufficient capital from a financing or other sources, and in order to provide the Metabasis board of directors additional time to evaluate strategic alternatives, on May 27, 2009, Metabasis discontinued all research and development activities and announced a third corporate restructuring that resulted in a reduction of an additional 45 employees, or approximately 85% of its then total workforce. At the same time, Metabasis was notified by Oxford Finance Corporation, or Oxford, that the material adverse change and insolvency events of default under the terms of Oxford's loan and security agreement with Metabasis had occurred, which required full payment by Metabasis of all amounts due to Oxford. Metabasis paid Oxford \$6.8 million against the outstanding principal and interest due, and agreed to new terms for the remittance of the remaining loan balance of \$200,000. Also in late May, Metabasis received a letter from the NASDAQ Stock Market informing Metabasis of its non-compliance with the requirement that it maintain a minimum of \$2.5 million in stockholders equity in order to maintain its listing on the NASDAQ Capital Market.

Due to these events, Metabasis commenced a series of focused efforts intended to address its near term cash needs and maximize its potential strategic alternatives. On June 5, 2009, Metabasis announced that it had entered into a letter agreement with Roche, which provided for the early payment by Roche of a \$2.0 million milestone payment in exchange for certain know-how. On June 10, 2009, Metabasis announced that it had amended its AMP-activated Protein Kinase collaboration agreement with Merck to provide for a one-time, nonrefundable payment by Merck of \$6.0 million to Metabasis to satisfy all potential future milestone and royalty payments payable by Merck under the collaboration agreement. In July 2009, Metabasis terminated its lease for its corporate headquarters facility, and obtained a continued occupancy right through January 2, 2010; the consideration Metabasis gave in the transaction included a contingent payment right of up to \$1.5 million. Also in July 2009, Metabasis entered into an agreement to sell its laboratory and office equipment.

Having addressed these near-term issues, Metabasis sought to obtain additional resources through the licensing or selling of its product pipeline and potentially through other strategic alternatives, recognizing that in the event it was unsuccessful in the near term in its efforts to secure additional resources, it would be required to cease operations entirely due to the inadequacy of Metabasis cash resources. From June through August 2009, Metabasis continued to engage in significant partnering efforts focused primarily on the Glucagon Program, including extensive discussions with Company B and another pharmaceutical company, referred to herein as Company C.

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On June 13, 2009, Dr. Erion contacted Mr. Higgins to determine whether he had an interest in continuing the parties' previous conversations regarding a potential transaction involving Ligand and Metabasis, but this did not lead to substantial further discussions at the time. On August 17, 2009, Dr. Erion re-contacted Mr. Higgins, at which time Ligand expressed an interest in further reviewing the opportunity.

On August 24, 2009, Ligand announced it had entered into a definitive merger agreement under which Ligand would acquire Neurogen Corporation.

On August 25, 2009, a meeting was held at Metabasis involving members of both companies' management teams during which Ligand engaged in a due diligence review of several of Metabasis' drug development programs.

On August 26, 2009, Dr. Erion notified Metabasis of his intent to, effective October 31, 2009, resign as President, Chief Executive Officer and Chief Scientific Officer and as a member of the Metabasis board of directors, to join Merck as its vice president and worldwide basic franchise head of Diabetes and Obesity. In connection with Dr. Erion's prospective resignation, on August 27, 2009, Metabasis' board of directors appointed David F. Hale as Executive Chairman effective September 1, 2009. Metabasis announced Dr. Erion's prospective resignation and Mr. Hale's appointment on September 1, 2009.

On August 27, 2009, Metabasis retained Merriman Curhan Ford & Co., or Merriman, to explore and evaluate strategic alternatives, and subsequently announced its engagement of Merriman via a press release issued on September 3, 2009. Pursuant to its engagement, in early September 2009, Merriman began contacting companies that it believed might be interested in a potential acquisition of Metabasis.

On September 1, 2009, Mr. Higgins and Dr. Erion had a telephone conversation regarding the general structure and terms of a potential transaction involving Ligand and Metabasis.

On September 2, 2009, Mr. Higgins sent Dr. Erion an initial letter of intent outlining the terms for a potential acquisition of Metabasis by Ligand. Over the next several days, Dr. Erion and Mr. Higgins discussed the terms of the letter of intent by e-mail and by phone. On September 11, 2009, the Metabasis board of directors held a meeting at which Dr. Erion and Mr. Nguyen discussed the Ligand letter of intent and reported on the status of Merriman's evaluation of strategic alternatives and on partnering discussions for the Glucagon Program. Following the Metabasis board meeting, Dr. Erion provided additional feedback to Mr. Higgins, and on September 17, 2009, Mr. Higgins sent Dr. Erion a revised letter of intent outlining the terms for a potential acquisition of Metabasis by Ligand.

On September 15, 2009, Metabasis announced that it expected to regain compliance with the minimum \$2.5 million stockholders' equity requirement for continued listing on the NASDAQ Capital Market as of September 18, 2009. However, Metabasis also announced that it had received a letter from the NASDAQ Stock Market informing Metabasis of its non-compliance with a separate continued listing requirement relating to the maintenance of a minimum closing bid price of \$1.00 per share or more, and indicating that Metabasis had until March 15, 2010, to regain compliance.

On September 21, 2009, the Metabasis board of directors held a meeting at which the Metabasis board reviewed and discussed the revised letter of intent received from Mr. Higgins on September 17, 2009; Mr. Nguyen updated the Metabasis board regarding Merriman's evaluation of strategic alternatives; and Dr. Erion reported on the status of discussions with Company C regarding the partnering of the Glucagon Program and advised the Metabasis board that Company B had decided to pass on the opportunity. A representative of Cooley who was present at the meeting advised the Metabasis board on its fiduciary duties with respect to the consideration of such transactions.

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On September 22, 2009, the Ligand board of directors reviewed in detail the possible merger with Metabasis, including background information on Metabasis, deal structure, technology owned or controlled by Metabasis, and major programs and agreements of Metabasis.

On September 22, 2009, Dr. Erion e-mailed Mr. Higgins a counterproposal regarding certain terms of the revised letter of intent received from Mr. Higgins on September 17, 2009. Over the next two days, Dr. Erion and Mr. Higgins discussed the counterproposal by e-mail and by phone. On September 25, 2009, the Metabasis board of directors held a meeting at which Mr. Nguyen and representatives of Merriman and Cooley were present. Dr. Erion and Mr. Nguyen summarized the then-current terms of the proposed transaction with Ligand; the Merriman representatives reviewed their ongoing process of evaluating strategic alternatives for the company and shared their perspective on the terms of the proposed transaction with Ligand; and the Metabasis board determined to proceed with negotiations with Ligand while simultaneously moving forward with the Merriman process. On September 29, 2009, Mr. Higgins sent to Dr. Erion a term sheet which took into account the substantive discussions of the parties through that date, and the parties transitioned from a letter of intent/term sheet preparation process to a definitive transaction agreements preparation process.

Beginning on September 25, 2009, Ligand commenced significant further due diligence efforts with respect to Metabasis. On September 30, 2009, a meeting was held at Metabasis involving members of both companies' management teams during which Ligand engaged in a detailed due diligence review of Metabasis' drug development programs and business development efforts. John Kozarich, Ligand's Chairman, participated in this meeting. On October 2, 2009, a follow-up due diligence meeting was held involving various Ligand scientists and the Metabasis management team, in which additional details were presented on Metabasis' programs. In addition, representatives of Ligand and its outside counsel, Stradling Yocca Carlson & Rauth, or Stradling, reviewed various due diligence materials either at Metabasis or via an on-line data room throughout October.

On October 1, 2009, Charles Berkman, Ligand's Vice President, General Counsel and Secretary, sent Dr. Erion a draft confidentiality and exclusivity agreement. Dr. Erion responded later that day with comments to the agreement, the most significant of which was to delete the proposed 30-day exclusivity clause of the agreement, as Merriman remained engaged in its process of evaluating strategic alternatives for Metabasis, and Metabasis continued to pursue discussions regarding the Glucagon Program with Company C.

On the evening of October 2, 2009, initial drafts of the definitive agreements for the transaction were distributed by Stradling to Cooley. On the morning of October 5, 2009, Cooley and Stradling held a call in which Cooley orally provided initial comments on the draft definitive transaction agreements. On the evening of October 6, 2009 Cooley sent written comments on the draft definitive transaction agreements to Stradling. At various times during the week of October 5, 2009, representatives of Cooley, Stradling, Ligand and Metabasis engaged in negotiations regarding the terms of the draft confidentiality and exclusivity agreement. Also, on October 5, 2009, Stradling shared with Cooley a draft voting agreement that Ligand expected to be signed by all of the directors and executive officers and by certain major stockholders of Metabasis.

On October 9, 2009, the Metabasis board of directors held a meeting at which Mr. Nguyen and representatives of Merriman and Cooley were present. Dr. Erion reviewed the status of discussions with Company C regarding the partnering of the Glucagon Program. The Merriman representatives reported on the outcome of their process of exploring and evaluating strategic alternatives for Metabasis. They indicated that they had contacted 47 companies that Merriman believed might be interested in a potential acquisition of Metabasis; that 22 of the targets had passed on the opportunity, 10 of them had not responded at all, and 13 of them had not responded after receiving initial non-confidential information; and that the remaining two targets (one of which had provided a highly conditional and non-specific indication of interest and was not viewed by Merriman or the Metabasis board of directors as a viable acquirer, and the other of which had not provided an indication of interest) had expressed an inability to meet the timeline established by Metabasis for a response. It was also noted that the Merriman process had been commenced following Metabasis' public announcement of its engagement of Merriman, and that any interested companies not on Merriman's target list had had an opportunity

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to contact Merriman and/or Metabasis. Dr. Erion, Mr. Nguyen and the Cooley representatives discussed the status of Ligand's due diligence efforts and the status of the definitive transaction agreement negotiations and the remaining major open issues. The Cooley representatives also discussed the implications of the foregoing matters with respect to the fiduciary duties of the Metabasis board. The Metabasis board then authorized continued negotiations with Ligand and the execution of a confidentiality and exclusivity agreement with an exclusivity clause extending to October 31, 2009, subject to Metabasis' management obtaining concessions from Ligand on certain terms being negotiated in the draft definitive transaction agreements.

On October 9, 2009, Company C advised Metabasis that it had decided not to proceed with further discussions regarding the partnering of the Glucagon Program.

On October 10 and 11, 2009, Dr. Erion provided Mr. Higgins with feedback from the Metabasis board meeting held on October 9, 2009, and they discussed via e-mail and phone the concessions requested by the Metabasis board as a condition to granting the requested temporary exclusivity. Mr. Higgins also met in person with Mr. Hale on October 12, 2009, to discuss such matters. Shortly following this meeting, Metabasis executed a confidentiality and exclusivity agreement with Ligand containing an exclusivity clause extending to October 31, 2009.

From October 12 to 24, 2009, representatives of Cooley, Stradling, Metabasis and Ligand engaged in negotiations regarding the final terms of the definitive transaction agreements, including successive exchanges of draft agreements. The Metabasis board of directors held two meetings during this time, on October 14 and 22, 2009, at which Mr. Nguyen and representatives of Cooley and Merriman participated and updated the Metabasis board on the status of the draft definitive transaction agreement negotiations and the remaining major open issues, and the Cooley representatives advised the Metabasis board with respect to their fiduciary duties with respect to the consideration of the Ligand transaction. On October 14, 2009, the Ligand board of directors met, at which meeting a representative of Stradling participated and (together with Mr. Higgins and management) updated the Ligand board on the status of the draft definitive transaction agreement negotiations and the settled and remaining open major issues, the rationale for doing the deal and the deal economics, Metabasis' primary partnered and internal programs, and key risks and transaction considerations for the board. The Ligand board of directors approved the merger agreement and the merger via a unanimous written consent action dated as of October 22, 2009.

Drafts of the definitive transaction agreements were finalized by Cooley and Stradling on October 24, 2009.

On October 26, 2009, the Metabasis board of directors held a meeting at which Mr. Nguyen and representatives of Cooley and Merriman participated. The Cooley representatives referred the Metabasis board to the draft definitive transaction agreements that had been distributed in advance of the meeting, and reviewed a summary of such agreements that had been sent to the Metabasis board together with such materials. The Merriman representatives made a presentation to the Metabasis board, provided Merriman's analysis as to the fairness of the merger consideration to be received by the holders of Metabasis common stock pursuant to the merger agreement, and expressed Merriman's oral opinion (subsequently confirmed by its written opinion dated October 26, 2009) that, as of October 26, 2009, and based upon and subject to the factors and assumptions set forth in Merriman's written opinion, the merger consideration to be received by the holders of Metabasis common stock pursuant to the merger agreement is fair from a financial point of view to such holders. The Metabasis board then unanimously adopted a set of resolutions relating to the transaction with Ligand including resolutions declaring that the merger agreement and the merger, upon the terms and subject to the conditions set forth in the merger agreement, are advisable and in the best interests of Metabasis and its stockholders, approving the merger agreement and the merger, and recommending that Metabasis stockholders adopt the merger agreement and approve the merger at a special meeting of Metabasis stockholders.

On the evening of October 26, 2009, the definitive merger agreement was executed by Metabasis, Ligand, Moonstone Acquisition, Inc. and David F. Hale, as Stockholders' Representative, and voting agreements were executed by all of the directors and executive officers and by certain major stockholders of Metabasis.

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On November 25, 2009, the Metabasis board of directors held a meeting at which Mr. Nguyen and representatives of Cooley participated. The Cooley representatives referred the Metabasis board to the draft amendment to the merger agreement that had been distributed in advance of the meeting. The Metabasis board then approved the amendment to the merger agreement and recommended that Metabasis stockholders adopt the merger agreement, as amended.

Metabasis Reasons for the Merger; Recommendation of Metabasis Board of Directors

At a meeting of the Metabasis board of directors on October 26, 2009, the members of the Metabasis board of directors unanimously declared that the merger agreement and the merger, upon the terms and subject to the conditions set forth in the merger agreement, are advisable and in the best interests of Metabasis and its stockholders. The Metabasis board of directors has approved the merger agreement and the merger, and recommends that Metabasis stockholders adopt the merger agreement and approve the merger at the special meeting of Metabasis stockholders.

In reaching its determinations to approve the merger agreement and recommend that Metabasis stockholders adopt the merger agreement and approve the merger, the Metabasis board of directors considered numerous factors discussed with Metabasis' outside legal and financial advisors and senior management, including the following factors and benefits of the merger, each of which the Metabasis board of directors believed supported its determinations:

Metabasis Business, Financial Condition, Strategy and Prospects. The Metabasis board of directors' familiarity with the business, operations, properties and assets, financial condition, business strategy and prospects of Metabasis, as well as the risks involved in achieving those prospects (including the risk factors set forth in Metabasis' Annual Report on Form 10-K for the year ended December 31, 2008 and the risk factors subsequently set forth in Metabasis' Quarterly Report on Form 10-Q for the quarter ended September 30, 2009), as well as the nature of the industry in which Metabasis competes, industry trends and economic and market conditions, both on a historical and a prospective basis;

Difficulty in Obtaining Additional Resources. The substantial risk that Metabasis would be unable to obtain additional resources necessary to continue operating on a stand-alone basis on acceptable terms, if at all (taking into account, among other things, the significant number of investors contacted during the equity financing process led by Metabasis' exclusive placement agent from March through May 2009 and the lack of sufficient interest from those investors and the major existing investors in providing additional funding to Metabasis, as well as the recent challenges experienced by Metabasis in completing a business development transaction with respect to its Glucagon Program or other drug development assets), and the possibility that Metabasis would be required to cease operations entirely if additional resources could not be secured in the near term;

Solicitation of Other Parties. The results of the evaluation of strategic alternatives conducted by Merriman in September and October 2009, and specifically, the fact that notwithstanding Metabasis' public announcement of its engagement of Merriman and Merriman's significant efforts during the evaluation process, only 1 of the 47 companies contacted by Merriman provided any kind of formal indication of interest (and that the indication of interest provided was highly conditional and non-specific, and submitted by a company that was not viewed as a viable acquirer and which ultimately indicated that it was unable to meet the necessary timeline given the advanced stage of discussions with Ligand);

Identity of Acquirer. The publicly available information and information provided by Ligand concerning its businesses, financial condition, operating results and prospects, and the Metabasis board of directors' belief that Ligand's research and business development capabilities, which the Metabasis board of directors judged to be strong, coupled with Ligand's financial position, which the Metabasis board of directors judged to be solid, and its commitment to additional research and development funding as part of the merger, gives Metabasis' portfolio of programs the potential to deliver significant future value to Metabasis' stockholders via the CVRs (which Metabasis is unable to independently realize due to its limited financial and operational resources);

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Financial Advisor's Analysis and Fairness Opinion. The financial analysis prepared by Merriman and presented in its opinion to the Metabasis board of directors on October 26, 2009, that subject to the various qualifications and assumptions set forth in its opinion, the merger consideration is fair to Metabasis stockholders from a financial point of view (for a further discussion of the Merriman opinion, see *The Merger Opinion of Metabasis Financial Advisor* beginning on page 55 of this proxy statement/prospectus);

Negotiations with Ligand. The course of extensive arm's-length negotiations and discussions with Ligand, and improvements to the terms of the draft definitive transaction agreements in connection with and as a result of those negotiations and discussions, and the Metabasis board of directors' belief based on those negotiations and discussions that the terms set forth in the final definitive transaction agreements were the most favorable terms to Metabasis and its stockholders to which Ligand was willing to agree;

CVR Consideration. The fact that the CVRs are generally tradable and represent further potential upside beyond the upfront merger consideration;

Stockholders' Representative. The fact that the merger agreement provides for a stockholders' representative to, among other things, monitor fulfillment of Ligand's guaranteed funding obligations under the merger agreement, confirm satisfaction of Ligand's obligations under the CVR agreements, and negotiate and enforce (or settle) matters with respect to the amounts to be paid to the holders of CVRs;

Ability to Respond to Unsolicited Proposal. The ability of the Metabasis board of directors, under certain circumstances specified in the merger agreement, to consider and respond to an unsolicited bona fide acquisition proposal from a third party before obtaining the approval of Metabasis stockholders of the merger, and the ability of the Metabasis board of directors to terminate the merger agreement to accept a superior proposal (as such term is defined in the merger agreement) upon the payment to Ligand of a termination fee of \$400,000;

Ability to Withdraw or Change Recommendation. The ability of the Metabasis board of directors, under the merger agreement, to withdraw or modify, in a manner adverse to Ligand, its recommendation in favor of the adoption of the merger agreement and approval of the merger, after providing Ligand five days written notice of its intention to do so, if the Metabasis board of directors concludes in good faith, after the receipt of advice of outside legal counsel that a failure to take such actions would be inconsistent with its fiduciary duties under applicable law, subject to payment of a \$400,000 termination fee to Ligand if, as a result, Ligand terminates the merger agreement within the time specified in the merger agreement;

Absence of Financing Condition or Ligand Stockholder Vote. The fact that completion of the merger and the other transactions contemplated by the merger agreement is not conditioned on Ligand's ability to obtain financing or an affirmative vote of its stockholders;

Other Terms of the Definitive Transaction Agreements. The parties' respective representations, warranties and other covenants under the definitive transaction agreements, and the belief that the terms of such agreements, taken as a whole, are reasonable under the circumstances.

Voting Agreements. The voting agreements entered into by various Metabasis stockholders who collectively owned approximately 28.9% of the outstanding shares of Metabasis common stock as of October 26, 2009, which demonstrated their support for the transaction.

The Metabasis board of directors also identified and considered a number of uncertainties, risks and other potentially negative factors, including the following:

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Effect of Failure to Complete Transactions. The amount of time required to complete the merger, the conditions to the closing of the merger (some of which are outside Metabasis control) and the risks

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and costs to Metabasis if the transactions contemplated by the merger agreement do not close, including the effect on business relationships and the incurrence of significant transaction-related expenses, and the fact that if such transactions are not consummated and Metabasis is unable to secure additional resources, including through another strategic transaction, it will be required to cease operations entirely;

CVR Risks. The risk that the CVRs may yield little or no value for Metabasis stockholders or that transactions which would trigger payments pursuant to the CVRs do not occur before the applicable outside dates, thereby causing Metabasis stockholders not to receive value that could otherwise be obtained from the CVRs (and the fact that the holders of the CVRs will generally have no control over the specific research, development, sale and partnering activities undertaken by Ligand, which will themselves be subject to significant product and business development risks), and the risk that a liquid market will never develop for the CVRs, or that holders of the CVRs will not be able to trade such CVRs on acceptable terms if desired;

Interim Restrictions on Business. The potential impact of the restrictions under the merger agreement on Metabasis ability to take certain actions during the period before the effective time of the merger (which could delay or prevent Metabasis, other than with the consent of Ligand, from undertaking business opportunities that may arise pending completion of the merger);

Impact on Alternative Transactions. Certain provisions of the merger agreement may have the effect of discouraging proposals for alternative acquisition transactions involving Metabasis, including: (i) the restriction on Metabasis ability to solicit proposals for alternative transactions and (ii) the requirement that Metabasis pay a termination fee of up to \$400,000 to Ligand in certain circumstances following the termination of the merger agreement;

Interests of Executive Officers and Directors. The risks arising from the fact that Metabasis executive officers and directors have interests in the merger as individuals that are in addition to, or that are different from, the interests of Metabasis stockholders (for a further discussion of these interests, see *The Merger Interests of Metabasis Executive Officers and Directors in the Merger* beginning on page 66 of this proxy statement/prospectus); and

Other Risks. Other risks commonly associated with transactions such as the merger, including risks associated with the business of Ligand, Metabasis and the combined company, including those described in the section of this proxy statement/prospectus entitled *Risk Factors* beginning on page 22 of this proxy statement/prospectus.

The foregoing discussion of the factors considered by the Metabasis board of directors is not intended to be exhaustive, but rather includes the material factors considered by the Metabasis board of directors in its consideration of the merger agreement and the merger. After considering these factors, the Metabasis board of directors concluded that the positive factors relating to the merger agreement and the merger outweighed the potential negative factors. In view of the wide variety of factors considered by the Metabasis board of directors, and the complexity of these matters, the Metabasis board of directors did not find it practicable to, and did not, quantify or otherwise assign relative weights to the foregoing factors. In addition, individual members of the Metabasis board of directors may have assigned different weights to various factors. The Metabasis board of directors approved and recommends the merger agreement and the merger based upon the totality of the information presented to and considered by it.

Opinion of Metabasis Financial Advisor

On October 26, 2009, Merriman Curhan Ford & Co., or Merriman, rendered its opinion to Metabasis board of directors that, as of October 26, 2009, and based upon and subject to the factors and assumptions set forth therein, the merger consideration to be received by the holders of Metabasis common stock pursuant to the merger agreement is fair from a financial point of view to such holders.

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The full text of the written opinion of Merriman, dated October 26, 2009, which sets forth assumptions made, procedures followed, matters considered and limitations on the review undertaken in connection with the opinion, is attached as *Annex G* to this proxy statement/prospectus and is incorporated by reference herein. Merriman provided its opinion for the information and assistance of Metabasis board of directors in connection with its consideration of the merger in the form of the merger agreement, dated as of October 26, 2009. Merriman did not provide information or assistance to Metabasis board of directors in connection with its consideration of the amendment to the merger agreement, dated as of November 25, 2009. The Merriman opinion is not a recommendation as to how any holder of Metabasis common stock should vote with respect to the merger or any other matter.

In arriving at its opinion, Merriman reviewed and considered such financial and other matters as it deemed relevant, including, among other things:

a draft of the merger agreement dated as of October 24, 2009 and drafts, dated as of October 24, 2009, of the CVR agreements;

certain financial information regarding Metabasis historical and projected financial performance provided by Metabasis management;

certain publicly available information concerning Metabasis;

interviews it conducted with members of current and former senior management concerning Metabasis business and prospects;

certain publicly available information regarding companies and transactions comparable to the transaction contemplated by the merger agreement; and

such other information, financial studies, analyses and investigations deemed relevant for purposes of the opinion.

In conducting its review and arriving at its opinion, Merriman, with Metabasis consent, assumed and relied, without independent investigation, upon the accuracy and completeness of all financial and other information provided by Metabasis or which was publicly available or was otherwise reviewed by Merriman. Merriman did not undertake any responsibility for the accuracy, completeness or reasonableness of, or independent verification of, such information. Merriman relied upon, without independent verification, the assessment of Metabasis management as to the existing products of Metabasis and the viability of, and risks associated with, the future products of Metabasis. In addition, Merriman did not conduct, or assume any obligation to conduct, any physical inspection of the properties or facilities of Metabasis. Merriman further relied upon Metabasis representation that all information provided to it by Metabasis was accurate and complete in all material respects. Merriman assumed that the financial information provided was prepared in good faith on a reasonable basis in accordance with industry practice, and that Metabasis management was not aware of any information or facts that would make any information provided to Merriman incomplete or misleading. Merriman expressed no opinion as to Metabasis financial forecasts or the assumptions on which they were based. Merriman expressly disclaimed any undertaking or obligation to advise any person of any change in any fact or matter affecting its opinion of which Merriman becomes aware after the date of its opinion.

Merriman did not make or obtain any independent evaluations, valuations or appraisals of the assets or liabilities of Metabasis, nor was Merriman furnished with those materials. Additionally, Merriman did not evaluate the solvency or fair value of Metabasis under any state or federal laws relating to bankruptcy, insolvency or similar matters. Merriman did not undertake an independent analysis of any pending or threatened litigation, regulatory action, possible unasserted claims or other contingent liabilities, to which Metabasis (or any of its affiliates) is or may be subject. Merriman, with Metabasis consent, expresses no opinion with respect to such legal matters. Merriman's opinion addressed only the fairness, from a financial point of view, to the holders of Metabasis common stock of the consideration to be received by such holders pursuant to the merger. Merriman expressed no view as to any other aspect or implication of the merger agreement or any other agreement, arrangement or understanding entered into in connection with the transactions contemplated by the merger agreement or otherwise. Merriman's opinion was necessarily based upon economic and market

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conditions and other circumstances as they existed and could be evaluated by Merriman on the date of its opinion. It should be understood that although subsequent developments may affect its opinion, Merriman does not have any obligation to update, revise or reaffirm its opinion and Merriman expressly disclaims any responsibility to undertake any of the foregoing.

In rendering its opinion, Merriman assumed, in all respects material to its analysis, that the representations and warranties of each party contained in the merger agreement and the CVR agreements 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 and the CVR agreements and that all conditions to the consummation of the transactions contemplated by the merger agreement will be satisfied without waiver thereof. Merriman assumed that the final form of the merger agreement and that the CVR agreements would be substantially similar to the drafts received by Merriman on October 24, 2009. Merriman assumed that all governmental, regulatory and other consents and approvals contemplated by the merger agreement and the CVR agreements would be obtained and that, in the course of obtaining any of those consents, no restrictions will be imposed or waivers made that would have an adverse effect on those contemplated benefits of the transactions contemplated by the merger agreement.

Merriman's opinion does not constitute a recommendation to any stockholder as to how the stockholders should vote with respect to the proposed transactions or to take any other action in connection with the proposed transactions or otherwise. Merriman's opinion does not imply any conclusion as to the likely value, price or trading range for the CVRs following consummation of the transactions contemplated by the merger agreement or otherwise, which may vary depending on numerous factors that generally influence the price of securities. Merriman's opinion is limited to the fairness, from a financial point of view, of the consideration to be received by the holders of Metabasis common stock pursuant to the merger. Merriman expresses no opinion as to the underlying business reasons that may support the decision of the Metabasis board of directors to approve, or Metabasis' decision to consummate, the transactions contemplated by the merger agreement or the relative merits of such transactions as compared to other business strategies or transactions that might be available to Metabasis. Merriman's opinion does not address the fairness of the amount or the nature of any compensation to any of Metabasis' officers, directors or employees, or any class of such persons, relative to the consideration to be provided to the consideration to be provided to the stockholders of Metabasis.

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The following is a summary of the principal financial analyses performed by Merriman to arrive at its opinion. Some of the summaries of financial analyses include information presented in tabular format. In order to fully understand the financial analyses, the tables must be read together with the text of each summary. The tables alone do not constitute a complete description of the financial analyses. Considering the data set forth in the tables 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 the financial analyses. Merriman performed certain procedures, including each of the financial analyses described below, and reviewed with the management of Metabasis the assumptions on which such analyses were based and other factors, including the historical and projected financial results of Metabasis.

Metabasis Valuation Analyses. Merriman analyzed the valuation of Metabasis using three different methodologies: stand-alone operations analysis; liquidation analysis; and the analysis of the transaction proposed herein, or the Ligand transaction analysis. The results of these analyses are described below.

Overview

In order to evaluate the expected value of the various CVR agreements included in the merger consideration and to compare those expected values to the expected value Metabasis could expect from either stand-alone operations or a liquidation, Merriman applied probability adjustments to management's estimates of the ultimate payments that could be expected under Metabasis' various drug development programs based on the development stage of the respective program. Based on publicly available industry standards, Merriman used the following probability adjustments:

Stage of Development	Probability of Success
Pre-clinical	3-5%
Phase 1	10-20%
Phase 2	25-35%
Phase 3	65-75%
Registration	90-95%

Stand-Alone Operations

Merriman performed a stand-alone operations analysis on Metabasis assuming Metabasis attempted to follow a "go it alone" strategy and seek to raise additional capital to fund its operations. In large part because Metabasis was unable to raise additional funds through the financing process undertaken by Metabasis' exclusive placement agent from March through May 2009, Merriman reached the conclusion that a "go it alone" strategy was not a viable option due to a lack of sufficient funding from operations and a lack of available financing. Due to Metabasis' negative cash flow and the failure of Metabasis to raise capital, Merriman did not perform a standard discounted cash flow analysis on Metabasis. The foregoing analysis was based on the following key assumptions:

Management's estimate that Metabasis will have net liabilities of approximately \$1.3 million (or \$0.04 per share) as of December 31, 2009;

That estimate did not include the potential cost of liquidation, which management estimated would be an additional \$800,000;

Metabasis' prior unsuccessful attempts to obtain additional financing; and

Metabasis' lack of sufficient funds for continued operation of the business.

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The following table presents the results of this analysis:

	2009 (in thousands)		
	30-June	30-Sept	31-Dec
Cash	\$ 6,632	\$ 2,208	\$ 1,367
Accounts Receivable	\$ 0	\$ 518	\$ 322
(Less) Liabilities	\$ 7,387	\$ 1,284	\$ 2,994
Net Assets (Liabilities)	\$ (755)	\$ 1,443	\$ (1,305)

Liquidation

Based on information provided to it by Metabasis management, Merriman determined the estimated amount of cash available to stockholders in an orderly liquidation of Metabasis and estimated the value of a potential HepDirect partnership and successful achievement of milestones associated with the existing Roche partnership in a liquidation of Metabasis. Merriman believed that, in a liquidation, if Metabasis was unable to successfully partner HepDirect and if the Roche milestones were not achieved, the most likely scenario was that stockholders would receive nothing for their shares. Merriman concluded that liquidation would have a maximum expected value of approximately \$50.8 million, or \$1.44 per share assuming a HepDirect partnership and receipt of milestones associated with the Roche partnership, and a minimum expected value of \$(2.1 million), or \$(0.06) per share.

The expected value of Metabasis assuming no partnerships was calculated as follows:

Liquidation (assuming no partnerships)

	December 31, 2009
	\$ in thousands
Cash Outflows Upon Liquidation	
Cash to pay Net Liabilities	\$ (1,305)
Wind down costs*	\$ (800)
Cash Available to Stockholders	\$ (2,105)

* Wind down costs estimated at \$800,000 for illustrative purposes.

Assuming that a trustee was retained to collect payments associated with the successful achievement of milestones under the Roche agreement in a liquidation, and assuming a partnership for HepDirect, the combined partnerships would provide a maximum expected net present value of approximately \$50.8 million (assuming a 6% discount rate), after excluding the following items:

\$1.3 million in estimated net liabilities of Metabasis;

An estimated \$1.5 million to be paid under Metabasis lease termination agreement;

\$800,000 in estimated costs associated with the dissolution of Metabasis; and

An estimate that 2% of all milestone payments would be used to cover costs associated with a trustee.

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Merriman advised the Metabasis board of directors, however, that the expected maximum value of \$50.8 million was dependent on the clinical success of the Roche program and the successful partnership of HepDirect.

Ligand Transaction

Merriman concluded that the merger provided an expected maximum value of approximately \$70.2 million, or \$1.99 per share, assuming successful achievement of all CVR milestones, and a minimum expected value of

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\$1.8 million, or \$0.05 per share. As a result, both the minimum and maximum expected values of the merger exceeded the minimum and maximum expected values of a liquidation of Metabasis. In addition, the merger provided stockholders with upfront proceeds estimated to be \$1.8 million, or \$0.05 per share.

Merriman reviewed the various CVR agreements to be entered into in connection with the merger by applying the probability of success estimates shown above to the values Metabasis management expected to be received by stockholders under the CVR agreements, discounted back to present value. Under this methodology, Merriman concluded that the expected maximum value of the CVR agreements would be approximately \$68.4 million, or \$1.94 per share, and that the expected minimum value would be \$0. The following table summarizes the results of this analysis with the following assumptions (in thousands):

Estimated Value of CVR Constituents

	MB11362 (Roche)	Glucagon	TR Beta	HepDirect	MB07133	DGAT-1
Risk Adjusted Maximum Net Present Value	\$ 34,364	\$ 8,315	\$ 19,167	\$ 813	\$ 1,401	\$ 4,709
Per Share Value	\$ 0.97	\$ 0.24	\$ 0.54	\$ 0.02	\$ 0.03	\$ 0.13

Based on management estimates as adjusted to incorporate the probability of success and discount rates as applied by Merriman;

Each estimate presents a best case scenario for each CVR;

Based on a diluted per share value using 35,332,118 shares as of October 23, 2009; and

Based on a deduction of \$1.5 million (\$975,000 risk adjusted) related to the lease termination agreement from an assumed first milestone payment related to MB11362.

The expected maximum value of the merger of approximately \$70.2 million includes the expected maximum value of the CVR agreements of approximately \$68.4 million and the upfront proceeds to stockholders provided by the merger of approximately \$1.8 million.

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Analysis of Precedent CVR Transactions. Merriman reviewed recent CVR transactions which are commonly used structures which bridge valuation gaps between a company's current value and its expected future value. Few of the precedent transactions, however, have included a CVR which is registered and tradable, as are the CVRs to be issued in the merger. The following tables present comparable CVR transactions (dollar amounts in millions):

Recent health care CVR transactions

Date	Target	Acquirer	Net Transaction		Cash	Stock	Options	Net Cash Acquired	Summary	Target Stock Premium - 1 Day Prior
			Value	CVR						
08/23/2009	Neurogen Corp.	Ligand Pharmaceuticals Inc.	\$ 3.2	\$ 7.0	\$ 0.0	\$ 11.4	\$ 0.0	\$ 15.2	Stock and CVR	(17.3)%
01/12/2009	Targanta Therapeutics Corp.	Medicines Co.	\$ 110.8	\$ 95.5	\$ 42.0	\$ 0.0	\$ 0.0	\$ 26.7	Cash and CVR	96.1%
01/05/2009	Indevus Pharmaceuticals	Endo Pharmaceuticals Holdings Inc.	\$ 718.1	\$ 267.0	\$ 370.0	\$ 0.0	\$ 31.0	\$ (50.2)	Cash and CVR	42.9%
10/27/2008	Avalon Pharmaceuticals, Inc.	Clinical Data, Inc.	\$ 8.9	\$ 2.6	\$ 0.0	\$ 7.5	\$ 0.0	\$ 1.1	Stock and CVR	451.2%
09/24/2008	Pharmacopeia, Inc.	Ligand Pharmaceuticals Inc.	\$ 28.1	\$ 15.0	\$ 0.0	\$ 53.5	\$ 0.0	\$ 40.5	Stock and CVR	43.9%
07/15/2008	Lev Pharmaceuticals, Inc.	ViroPharma Inc.	\$ 576.1	\$ 151.1	\$ 321.0	\$ 75.4	\$ 23.3	\$ (5.3)	Cash, Stock and CVR	50.2%
07/06/2008	APP Pharmaceuticals	Fresenius Kabi AG	\$ 5,644.1	\$ 989.0	\$ 3,698.4	\$ 0.0	\$ 33.1	\$ (923.6)	Cash and CVR	29.1%
12/11/2006	Valera Pharmaceuticals	Endo Pharmaceuticals Solutions Inc.	\$ 149.2	\$ 52.3	\$ 0.0	\$ 115.7	\$ 0.0	\$ 18.8	Stock and CVR	47.1%
05/28/2004	Aclara Biosciences Inc.	Monogram Biosciences, Inc. (ViroLogic)	\$ 96.0	\$ 30.9	\$ 0.0	\$ 150.0	\$ 0.0	\$ 84.8	Stock and CVR	11.7%
02/07/2003	Cell Pathways, Inc.	OSI Pharmaceuticals Inc.	\$ 22.5	\$ 0.0	\$ 0.0	\$ 33.1	\$ 0.0	\$ 10.6	Stock and CVR	78.6%
10/01/2001	Ascent Pediatrics, Inc.	Medicis Pharmaceutical Corp.	\$ 74.0	\$ 0.0	\$ 32.7	\$ 0.0	\$ 0.1	\$ (41.3)	Cash and CVR	4.7%
03/06/2000	The Liposome Company, Inc.	Elan Corp. plc	\$ 720.4	\$ 98.0	\$ 0.0	\$ 689.2	\$ 0.0	\$ 66.8	Stock and CVR	8.2%

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Date	Target	Acquirer	Net Transaction Value (\$mm)	CVR	Cash	Stock	Options	Net Cash Acquired Summary	Target Stock Premium -1 Day Prior	Target Stock Premium - 1 Day Prior
06/20/2009	Voyager Learning Company	Cambium Learning, Inc.	\$ 130.6	\$ 0.0	\$ 67.5	\$ 126.7	\$ 0.0	\$ 63.6	Stock and CVR	202.3%
04/15/2007	Clean Power Income Fund	Macquarie Power & Infrastructure Income Fund	\$ 408.6	\$ 6.7	\$ 0.0	\$ 195.2	\$ 19.7	\$ (187.0)	Stock and CVR	14.8%
10/14/2003	Miltope Group Inc.	Vision Technologies Kinetics, Inc.	\$ 42.8	\$ 0.0	\$ 34.5	\$ 0.0	\$ 0.0	\$ (8.3)	Cash and CVR	(9.7%)
09/07/2003	Information Resources, Inc.	Investor Group	\$ 86.1	\$ 0.0	\$ 88.5	\$ 0.0	\$ 0.0	\$ 2.4	Cash and CVR	(18.7%)
02/28/2002	Hoening Group Inc.	Investment Technology Group Inc.	\$ 105.4	\$ 0.0	\$ 105.4	\$ 0.0	\$ 0.0	\$ 0.0	Cash and CVR	9.3%
10/04/2001	Madison Oil Company	Toreador Resources Corp.	\$ 39.6	\$ 0.0	\$ 0.0	\$ 17.8	\$ 0.0	\$ (21.8)	Stock and CVR	112.9%
08/21/2000	Bank United Corp.	Washington Mutual Inc.	\$ 1,385.3	\$ 0.0	\$ 0.0	\$ 1,385.3	\$ 0.0	\$ 0.0	Stock and CVR	0.7%
06/20/2000	Saatchi & Saatchi PLC	Publicis Groupe SA	\$ 2,259.2	\$ 0.0	\$ 0.0	\$ 2,241.7	\$ 0.0	\$ (17.5)	Stock and CVR	41.7%
08/15/1999	Terra Nova Bermuda Holding Ltd.	Markel Corp.	\$ 780.0	\$ 0.0	\$ 339.9	\$ 339.9	\$ 0.0	\$ (100.2)	Cash, Stock and CVR	0.2%
03/09/1999	Paribas	BNP Paribas	\$ 34,344.8	\$ 7,732.4	\$ 0.0	\$ 19,219.6	\$ 7,392.8	\$ 0.0	Stock and CVR	71.0%
01/11/1999	Crestbrook Forest Industries Ltd.	Tembec Inc.	\$ 178.6	\$ 0.0	\$ 15.5	\$ 30.9	\$ 0.0	\$ (132.2)	Cash, Stock and CVR	19.1%
12/14/1998	Pharmaceutical Marketing Services	Quintiles Transnational Corp.	\$ 295.2	\$ 0.0	\$ 0.0	\$ 365.5	\$ 0.0	\$ 70.3	Stock and CVR	40.3%
12/31/1997	Phoenix Network, Inc.	Qwest Communications International Inc.	\$ 41.1	\$ 4.0	\$ 0.0	\$ 28.5	\$ 0.0	\$ (8.6)	Stock and CVR	81.5%

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Trading Comparables. To provide contextual data and comparative market information, Merriman compared selected historical and financial data and ratios for Metabasis to the corresponding financial data and ratios of certain other companies, or the Comparable Companies, whose securities are publicly traded.

The following Comparable Companies have announced liquidation, bankruptcy or the evaluation of strategic alternatives (dollar amounts in millions, except for per share amounts):

Company	10/23/09 Price	52 Week Low	52 Week High	Market Cap.	Enterprise Value	Date of Announcement	Announcement
CombiMatrix Corporation	\$ 6.23	\$ 4.73	\$ 10.05	\$ 46.8	\$ 42.8	9/16/09	Strategic Alternatives
Neurobiological Technologies	\$ 0.91	\$ 0.19	\$ 1.05	\$ 24.4	\$ 0.3	8/4/09	Downsizing
Vion Pharmaceuticals Inc.	\$ 0.84	\$ 0.25	\$ 6.54	\$ 6.8	\$ 35.2	10/12/09	Strategic Alternatives
La Jolla Pharmaceutical Co.	\$ 0.08	\$ 0.04	\$ 3.20	\$ 5.2	\$ (3.3)	7/13/09	Chapter 11 bankruptcy
Targeted Genetics Corp.	\$ 0.25	\$ 0.06	\$ 0.70	\$ 5.2	\$ 2.7	8/31/09	Restructuring
Altus Pharmaceuticals Inc.	\$ 0.16	\$ 0.14	\$ 0.80	\$ 5.0	\$ (3.1)	5/12/09	Liquidation
Oscient Pharmaceuticals Corp.	\$ 0.05	\$ 0.02	\$ 0.85	\$ 4.9	\$ 189.1	10/14/09	Liquidation
Mean				\$ 14.0	\$ 37.7		
Median				\$ 5.2	\$ 2.7		
Metabasis(*)	\$ 0.74	\$ 0.21	\$ 1.15	\$ 26.0	\$ 23.8	9/3/09	Strategic Alternatives
Metabasis 30 days prior	\$ 0.42	\$ 0.21	\$ 1.35	\$ 14.8	\$ 8.1		
Metabasis 60 days prior	\$ 0.44	\$ 0.21	\$ 1.75	\$ 15.5	\$ 8.8		
Metabasis 90 days prior	\$ 0.57	\$ 0.21	\$ 1.86	\$ 20.0	\$ 13.4		

* Enterprise value includes cash and debt position based on third quarter results.

The following Comparable Companies include development stage companies in the hepatitis space (dollar amounts in millions, except for per share value):

Company	10/23/09 Price	52 Week Low	52 Week High	Market Cap.	Enterprise Value
Idenix Pharmaceuticals Inc.*	\$ 2.75	\$ 1.86	\$ 6.82	\$ 182.4	\$ 132.3
Anadys Pharmaceuticals Inc.	\$ 2.21	\$ 1.44	\$ 8.43	\$ 82.5	\$ 51.8
Dynavax Technologies Corporation	\$ 1.39	\$ 0.15	\$ 3.35	\$ 55.6	\$ 2.6
Inhibitex Inc.	\$ 1.22	\$ 0.18	\$ 1.33	\$ 53.1	\$ 29.7
Achillion Pharmaceuticals, Inc.	\$ 1.85	\$ 0.65	\$ 2.42	\$ 49.3	\$ 33.1
Mean				\$ 60.1	\$ 29.3
Median				\$ 54.3	\$ 31.4
Metabasis **	\$ 0.58	\$ 0.21	\$ 1.15	\$ 20.4	\$ 18.2
Metabasis 30 days prior	\$ 0.42	\$ 0.21	\$ 1.35	\$ 14.8	\$ 8.1
Metabasis 60 days prior	\$ 0.44	\$ 0.21	\$ 1.75	\$ 15.5	\$ 8.8
Metabasis 90 days prior	\$ 0.57	\$ 0.21	\$ 1.86	\$ 20.0	\$ 13.4

* Market cap and enterprise value excluded from mean and median calculations.

** Enterprise value includes cash and debt position based on third quarter results.

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Merriman's analyses of the Comparable Companies indicated that the merger provides Metabasis stockholders with the ability to realize value in a range comparable to developmental stage hepatitis focused companies that are not operating in a distressed situation.

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The following Comparable Companies include development stage companies in the metabolic space (dollar amounts in millions, except for per share amounts):

Company	10/23/09 Price	52 Week Low	52 Week High	Market Cap.	Enterprise Value
Arena Pharmaceuticals, Inc.*	\$ 4.34	\$ 2.26	\$ 7.42	\$ 402.0	\$ 448.7
Amarin Corporation plc	\$ 1.53	\$ 0.46	\$ 2.25	\$ 151.2	\$ 137.0
Keryx Biopharmaceuticals Inc.	\$ 2.15	\$ 0.09	\$ 3.33	\$ 137.3	\$ 123.9
Neurocrine Biosciences Inc.	\$ 2.62	\$ 2.13	\$ 4.47	\$ 102.4	\$ 49.6
RXi Pharmaceuticals Corporation	\$ 2.19	\$ 2.20	\$ 10.77	\$ 35.5	\$ 31.2
DARA BioSciences, Inc.	\$ 0.42	\$ 0.15	\$ 1.40	\$ 22.4	\$ 21.6
Mean				\$ 89.8	\$ 72.7
Median				\$ 102.4	\$ 49.6
Metabasis **	\$ 0.58	\$ 0.21	\$ 1.15	\$ 20.4	\$ 18.2
Metabasis 30 days prior	\$ 0.42	\$ 0.21	\$ 1.35	\$ 14.8	\$ 8.1
Metabasis 60 days prior	\$ 0.44	\$ 0.21	\$ 1.75	\$ 15.5	\$ 8.8
Metabasis 90 days prior	\$ 0.57	\$ 0.21	\$ 1.86	\$ 20.0	\$ 13.4

* Market cap and enterprise value excluded from mean and median calculations.

** Enterprise value includes cash and debt position based on third quarter results.

Merriman's analyses of the Comparable Companies indicated that the merger provides Metabasis stockholders with the ability to realize value in a range comparable to developmental stage metabolic focused companies that are not operating in a distressed situation.

General. The foregoing summary does not purport to be a complete description of all the analyses performed by Merriman. The preparation of a fairness opinion involves various determinations as to the most appropriate and relevant methods of financial analysis and the application of these methods to the particular circumstances and, therefore, such an opinion is not readily susceptible to partial analysis or summary description. Merriman did not attribute any particular weight to any analysis or factor considered by it, but rather made qualitative judgments as to the significance and relevance of each analysis and factor. Accordingly, notwithstanding the separate factors summarized above, Merriman believes, and has advised the Metabasis board of directors, that its analyses must be considered as a whole and that selecting portions of its analyses and the factors considered by it, without considering all analyses and factors, could create an incomplete view of the process underlying its opinion. In performing its analyses, Merriman made numerous assumptions with respect to industry performance, business and economic conditions and other matters, many of which are beyond the control of Metabasis and Ligand. These analyses performed by Merriman are not necessarily indicative of actual values or future results, which may be significantly more or less favorable than suggested by such analyses. In addition, analyses relating to the value of businesses do not purport to be appraisals or to reflect the prices at which businesses or securities may actually be sold. Accordingly, 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. None of Metabasis, Ligand, Merriman or any other person assumes responsibility if future results are materially different from those projected. The analyses supplied by Merriman and its opinion were among several factors taken into consideration by the Metabasis board of directors in making its decision to enter into the merger agreement and should not be considered as determinative of such decision.

Merriman was selected by the Metabasis board of directors to render an opinion to the Metabasis board of directors because Merriman is a nationally recognized investment banking firm and is regularly engaged as a financial advisor in connection with mergers and acquisitions, underwritings and secondary distributions of securities and private placements. In the ordinary course of business, Merriman and its affiliates actively trade the securities of Metabasis and may actively trade the securities of Ligand for its own account and for the accounts of its customers and, accordingly, may at any time hold a long or short position in such securities. Merriman and its affiliates in the ordinary course of business may in the future provide commercial and investment banking services to Metabasis and Ligand and may in the future receive fees for the rendering of such services.

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Merriman acted as financial advisor to Metabasis in connection with the transaction and has received a fee of \$150,000 from Metabasis, none of which was contingent upon the consummation of the merger, and is entitled to receive an additional financial advisory fee of \$100,000, which is contingent upon the consummation of the merger. Metabasis has also agreed to indemnify Merriman against certain liabilities and to reimburse it for certain expenses in connection with its services. In the future, Merriman may also provide other financial advisory and investment banking services to Ligand and its affiliates for which Merriman would expect to receive compensation. In addition, in the ordinary course of its business, Merriman and its affiliates may actively trade securities of Ligand and Metabasis for its own account or the account of its customers and, accordingly, may at any time hold a long or short position in such securities.

Ligand's Reasons for the Merger

In reaching its determination to approve the merger agreement and the merger, the Ligand board of directors considered numerous factors discussed with Ligand's outside legal advisors and senior management, including the following positive factors and benefits of the merger, uncertainties, risks and other potentially negative factors:

The status of, potential of, and risks inherent in Metabasis' drug development programs and certain other Metabasis assets;

The amount and form of consideration being offered to Metabasis' stockholders;

The back-end-loaded nature of the merger structure, wherein Ligand will make a relatively small cash consideration payment at the time of the merger but share with the former Metabasis stockholders any ultimate sale, license, milestone and royalty payments with respect to Metabasis' current drug development programs and certain other Metabasis assets;

The obligation, created by the merger agreement, for Ligand to spend at least \$8,000,000 in the research and development of Metabasis' current drug development programs (or else pay out the shortfall under the General CVR agreement);

The actual and potential liabilities and payment obligations that Metabasis, as a Ligand subsidiary, will be responsible for after the merger;

The absence of any financial recourse against Metabasis or its stockholders in the event Metabasis' liabilities are greater than is believed at Closing;

The representations, warranties and covenants of the parties, and the conditions to the closing of the merger;

The right of Metabasis' board of directors, in the event it were to receive any unsolicited superior third party acquisition proposal or proposals before the stockholder meeting to approve the merger, to consider and enter into negotiations regarding any such proposals; and

The termination and termination fee provisions of the merger agreement, which (among other things) entitle Metabasis' board of directors to withdraw its recommendation of the merger and terminate the merger agreement in order to enter into an agreement for a superior proposal (as defined in the merger agreement) with a third party, subject to the payment by Metabasis of a break-up fee.

The foregoing discussion of the factors considered by the Ligand board of directors is not intended to be exhaustive. After considering these factors, the Ligand board of directors concluded that the positive factors relating to the merger agreement and the merger outweighed the potential negative factors. In view of the wide variety of factors considered by the Ligand board of directors, and the complexity of these matters, the Ligand board of directors did not find it practicable to, and did not, quantify or otherwise assign relative weights to the foregoing

factors. In addition, individual members of the Ligand board of directors may have assigned different weights to various factors. The Ligand board of directors approved the merger agreement and the merger based upon the totality of the information presented to and considered by it.

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Interests of Metabasis Executive Officers and Directors in the Merger

In considering the recommendation of Metabasis board of directors that you vote to adopt the merger agreement and approve the merger, you should be aware that some of Metabasis executive officers and directors may have economic interests in the merger that are different from, or in addition to, those of Metabasis stockholders generally. Metabasis board of directors was aware of and considered these interests, among other matters, in reaching its determination that the merger agreement and the transactions contemplated thereby, including the merger, are advisable for, and in the best interests of, Metabasis and its stockholders, in approving the merger agreement and the transactions contemplated thereby, including the merger, and in making its recommendation that Metabasis stockholders vote in favor of the adoption of the merger agreement. These interests include the following:

upon the occurrence of certain types of termination of employment before the effective time of the merger, certain current and recently-departed executive officers are entitled to receive severance benefits, including certain lump sum payments, continuation of medical coverage, and immediate vesting of stock options as more fully described below;

the surviving entity will maintain and honor all indemnification arrangements in place for all past and present directors and officers of Metabasis for acts or omissions occurring at or before the effective time of the merger;

the surviving entity will maintain and honor all indemnification provisions and exculpation provisions in favor of each present or former director and officer of Metabasis that is set forth in the certificate of incorporation or bylaws of Metabasis and the equivalent organizational documents of any Metabasis subsidiary in effect as of the date of the merger agreement;

the organizational documents of the surviving entity will contain provisions with respect to exculpation and indemnification that are at least as favorable to the past and present indemnified directors and officers of Metabasis as those contained in Metabasis certificate of incorporation and bylaws in effect as of the date of the merger agreement;

David F. Hale, Executive Chairman and Acting Principal Executive Officer of Metabasis, will be appointed Stockholders Representative of Metabasis and will receive compensation in connection therewith;

Ligand agreed to use commercially reasonable efforts to negotiate and agree to terms with as many as possible of Edgardo Baracchini, David Bullough, Glenn Dourado and Barry Gumbiner, to assist, in the role of consultants, and with such consulting to begin as of the effective time of the merger, in Ligand's efforts toward selling or licensing the 7133 Program by the sixth-month anniversary of the effective time of the merger; provided, that Ligand shall not be required to provide more than \$40,000 in the aggregate for the compensation of such consultants. Mr. Baracchini was Senior Vice President of Business Development of Metabasis until October 23, 2009, and Mr. Gumbiner was Vice President of Clinical Development and Chief Medical Officer of Metabasis until October 14, 2009;

Ligand agreed to assume Metabasis obligations under its agreement with Mark Erion, previously President, Chief Executive Officer and Chief Scientific Officer of Metabasis, to provide Mr. Erion with a \$50,000 cash payment in the event that Ligand completes a transaction, including a licensing or sale transaction, with respect to the Glucagon Program; also, the merger agreement contemplates that Ligand must initiate research, development or commercialization efforts on the Glucagon Program and provide funding for such efforts;

Ligand will indemnify and hold harmless the present and former directors and officers of Metabasis against all liabilities arising out of the actions or omissions of such person's service, including the advancement of certain expenses, for a period of six years following the effective time of the merger; and

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Metabasis intends to purchase a directors and officers insurance tail policy before the merger and the surviving entity will maintain such policy, which will cover those persons who are covered by Metabasis directors and officers insurance policy for events occurring before the effective time of the merger on terms no less favorable than those applicable to the current directors and officers of Metabasis for six years, subject to certain limitations.

Metabasis directors and officers have entered into voting agreement with Ligand which require them to vote in favor of the merger agreement and the merger. Please see Certain Terms of the Merger Agreement-Voting Agreements beginning on page 101 of this proxy statement/prospectus.

Certain Severance Benefits. Metabasis general policy has been for its executive officers to maintain severance agreements. All of the agreements provide for a varying combination of cash, continued insurance benefits, outplacement services and acceleration of vesting on outstanding stock option awards. The agreements Metabasis maintains with certain of its executive officers provide for the following compensation in the event of termination for reasons other than cause: (i) cash severance equal to 12 months salary plus a cash payment equal to the average of the prior three years bonus payments, (ii) accelerated vesting of 12 additional months of all unvested stock options and shares of restricted stock, (iii) continued group disability insurance, group life insurance and group health benefits for a period of up to 12 months with the option to convert the group disability and group life insurance policies into individual policies, and (iv) outplacement services for up to six months.

In addition, total severance compensation due to the officer may be adjusted downward to ensure the best after-tax benefit to the officer if any portion of the benefits paid would be nondeductible under section 280G of the Internal Revenue Code. In the event of a termination for reasons other than cause or as a result of a restructuring or reduction in force, or resignation for good reason, within 12 months following a change in control, the officers will be entitled to an acceleration of vesting of all unvested stock options and shares of restricted stock.

Good reason is generally defined within these agreements as the occurrence of any of the following events: demotion or significant reduction in responsibilities; reduction in total compensation outside of a company-wide compensation reduction; or relocation of principal place of work by a distance of 50 miles or more. Cause is generally defined within these agreements as the occurrence of any of the following events: significant or continuing failure to perform employment duties; gross misconduct or fraud; or conviction of, or plea of guilty or no contest to, a non-vehicular felony.

Edgardo Baracchini, previously Senior Vice President of Business Development of Metabasis, and Barry Gumbiner, previously Vice President of Clinical Development and Chief Medical Officer of Metabasis, were each recently terminated and received severance packages as described above.

Tran B. Nguyen is the only executive officer currently at Metabasis entitled to severance benefits upon termination; and he is likely to be terminated in connection with the merger as well, and as a result would be entitled to severance benefits similar to those set forth above with the addition of relocation benefits and a related tax grossup. As part of the merger agreement, Ligand has specifically agreed to assume all such severance benefits. The cost of such severance benefits shall be treated as a reduction of Metabasis net cash for purposes of calculating the cash consideration payable in the merger.

In addition to the severance benefits described above, Ligand has specifically agreed to assume Metabasis obligations under its agreement with Dr. Mark Erion, previously President, Chief Executive Officer and Chief Scientific Officer of Metabasis, to provide Dr. Erion with a \$50,000 cash payment in the event that Ligand completes a transaction, including a licensing or sale transaction, with respect to the Glucagon Program.

Stockholders Representative. The Stockholders Representative fund will be funded, to cover the expenses and compensation of the Stockholders Representative, out of money otherwise payable to the Metabasis

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stockholders in an initial amount of \$150,000 and the fund will be augmented (to the extent such augmentation would not increase the fund to over \$300,000) by 1% of any amounts that are otherwise payable to CVR holders under any of the CVR agreements or that are subtracted from such amounts to make or reimburse payments related to certain contingent liabilities. The Stockholders Representative will be paid \$45,000 in annual compensation for providing services as such. In addition, the Stockholders Representative shall not be responsible for any loss suffered by, or liability of any kind to, the stockholders or holders of CVRs arising out of any act done or omitted by the Stockholders Representative in connection with the acceptance or administration of the Stockholders Representative's duties, unless such act or omission involves gross negligence or willful misconduct.

Insurance and Indemnification of Metabasis Officers and Directors. For a period of six years following the effective time of the merger, Ligand will cause the surviving entity and its subsidiaries to fulfill and honor the obligations of Metabasis and its subsidiaries pursuant to each indemnification agreement, in effect on the date of the merger agreement, between Metabasis or any of its subsidiaries and each present or former director and officer of Metabasis and any indemnification provision and any exculpation provision in favor of each present or former director and officer of Metabasis that is set forth in the certificate of incorporation or bylaws of Metabasis and the equivalent organizational documents of any Metabasis subsidiary in effect as of the date of the merger agreement. The certificate of incorporation and bylaws of the surviving entity shall contain the provisions with respect to indemnification and exculpation from liability set forth in Metabasis' certificate of incorporation and bylaws on the date of the merger agreement, and, from and after the effective time of the merger, such provisions shall not be amended, repealed or otherwise modified in any manner that could adversely affect the rights thereunder of any individual who is or was an officer or director of Metabasis at any time on or before the effective time of the merger.

Ligand will indemnify and hold harmless the present and former directors and officers of Metabasis against all liabilities arising out of the actions or omissions of such persons' service, including the advancement of certain expenses, for a period of six years following the effective time of the merger or for claims for which a written notice asserting such claim for indemnification before the sixth anniversary of the merger until such time as such claim is fully and finally resolved.

In addition, for a period of six years following the effective time of the merger, the surviving entity will maintain in effect the current level and similar scope of directors' and officers' liability insurance coverage, provided that the surviving entity shall not be obligated to expend in any one year an amount in excess of \$60,000. If Metabasis purchases a customary tail prepaid policy on Metabasis' D&O insurance policy, the entire cost shall be treated as a reduction of Metabasis' net cash for purposes of calculating the cash consideration payable in the merger. If Metabasis does not purchase a customary tail prepaid policy on Metabasis' D&O insurance policy, Metabasis' net cash at closing shall be deemed reduced by \$360,000, and Ligand will cause the surviving corporation to purchase such tail policy immediately following the merger. Ligand will cause the surviving corporation to maintain such tail policy in full force and effect and honor its obligations thereunder. Metabasis intends to purchase such directors' and officers' insurance tail policy before the merger and the surviving entity will maintain such policy, which will cover those persons who are covered by Metabasis' directors' and officers' insurance policy for events occurring before the effective time of the merger on terms no less favorable than those applicable to the current directors and officers of Metabasis for six years, subject to certain limitations.

Metabasis Directors and Officers After Completion of the Merger. Upon completion of the merger, the directors and officers of Metabasis will have resigned, and Ligand will appoint Ligand personnel as the directors and officers of the surviving corporation.

Regulatory Filings and Approvals Required to Complete the Merger

Neither Ligand nor Metabasis is aware of any material governmental or regulatory requirements that must be complied with regarding the merger, other than the effectiveness of the registration statement of which this proxy statement/prospectus is a part and compliance with applicable provisions of Delaware law.

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Delisting and Deregistration of Metabasis Common Stock

If the merger is completed, Metabasis common stock will be delisted from The NASDAQ Stock Market and deregistered under the Exchange Act, and will cease to be tradable. In addition, Metabasis will cease to be a reporting company under the Exchange Act.

Material United States Federal Income Tax Consequences of the Merger

The following is a summary of the material United States federal income tax considerations of the merger applicable to Metabasis stockholders. This summary is based upon existing United States federal income tax law, which is subject to change or differing interpretations (possibly with retroactive effect). Neither Metabasis nor Ligand has sought, nor will they seek, a ruling from the Internal Revenue Service, or IRS, regarding the federal income tax consequences of the merger. As such, there can be no assurance that the IRS will not take a contrary position regarding the tax consequences of the merger described in this discussion or that any such contrary position would not be sustained. This summary does not address all aspects of United States federal income taxation which may be relevant to particular Metabasis stockholders in light of their individual investment circumstances, such as stockholders subject to special tax rules (e.g., financial institutions, insurance companies, broker-dealers, and tax-exempt organizations) or to stockholders who acquired Metabasis common stock in connection with stock option, stock purchase or restricted stock plans or in other compensatory transactions, or as part of a straddle, hedge, conversion, constructive sale, or other integrated security transaction for United States federal income tax purposes, all of whom may be subject to tax rules that differ significantly from those discussed below.

This summary does not discuss any United States federal income tax considerations to Metabasis stockholders who are not United States holders (as defined below). If you are not a United States holder you should consult with your own tax advisor as to the United States federal, state and local tax laws and foreign tax laws with respect to the merger. In addition, this summary does not discuss any United States federal income tax considerations to Metabasis stockholders who exercise appraisal or dissenter's rights under Delaware law. This summary is limited to Metabasis stockholders that hold their Metabasis common stock as a capital asset (generally, property held for investment) under the Internal Revenue Code (the Code). **You are urged to consult your own tax advisors regarding the United States federal income tax considerations of the merger, as well as the effects of state, local, and foreign tax laws.**

For purposes of this summary, a United States holder is a Metabasis stockholder that is, for United States federal income tax purposes, (i) an individual who is a citizen or resident of the United States; (ii) a corporation or other entity taxable as a corporation that is created in, or organized under the laws of, the United States or any state or political subdivision thereof or any other entity treated as a domestic corporation under the Code; (iii) an estate, the income of which is includible in gross income for United States federal income tax purposes regardless of its source; or (iv) a trust (A) the administration of which is subject to the primary supervision of a United States court and which has one or more United States persons who have the authority to control all substantial decisions of the trust or (B) that has otherwise elected to be treated as a United States person under the Code.

If a partnership holds Metabasis common stock, the tax treatment of a partner in such partnership will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding Metabasis common stock, you should consult your tax advisor regarding the tax considerations of the merger.

This discussion is for general information only and should not be construed as tax advice. It is a summary and does not purport to be a comprehensive analysis or description of all potential United States federal income tax consequences of the merger. Metabasis and Ligand urge you to consult your tax advisor with respect to the particular United States federal, state, local or foreign tax consequences of the merger to you.

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General

The receipt of the merger consideration by a United States holder in exchange for Metabasis shares will be a taxable transaction for United States federal income tax purposes. The amount of gain or loss a United States holder recognizes, and the timing and potentially the character of a portion of such gain or loss, depends in part on the United States federal income tax treatment of the CVRs, with respect to which there is substantial uncertainty.

Because of the CVRs, the receipt of the merger consideration may be treated as either a closed transaction or an open transaction for United States federal income tax purposes. There is no authority directly on point addressing whether a sale of property for, in whole or in part, contingent value rights with characteristics similar to the CVRs should be taxed as open transactions or closed transactions and such question is inherently factual in nature. Accordingly, holders are urged to consult their tax advisors regarding this issue. The installment method of reporting any gain attributable to the receipt of a CVR will not be available because Metabasis common stock is traded on an established securities market. The CVRs may be treated as debt instruments for United States federal income tax purposes. However as such treatment is unlikely, the discussion below does not address the tax consequences of such a characterization.

Ligand is currently of the view that applicable tax principles weigh more heavily in favor of closed transaction treatment, and accordingly currently intends to conduct its own actions consistently with closed transaction treatment, including cooperating with the exchange agent to send Form 1099-B's to persons receiving CVRs in the merger. Ligand's views and actions (and the fair market value figure ascribed by Ligand to the CVRs as of the time of the merger) are not dispositive of the tax treatment question and/or such fair market value and are not binding on the IRS as to the holder's appropriate tax treatment and/or such fair market value.

The following sections discuss the possible tax treatment if the receipt of the merger consideration is treated as an open transaction or a closed transaction. **Metabasis and Ligand urge you to consult your tax advisor with respect to the proper characterization of the receipt of the CVRs.**

Treatment of Consideration Received Upon Consummation of the Merger

Treatment as Open Transaction. The receipt of the CVRs would generally be treated as an open transaction if the value of the CVRs cannot be reasonably ascertained. If the receipt of the merger consideration is treated as an open transaction for United States federal income tax purposes, a United States holder will generally recognize capital gain for United States federal income tax purposes upon consummation of the merger if and to the extent the amount of cash received exceeds such United States holder's adjusted tax basis in the Metabasis common stock surrendered pursuant to the merger.

Subject to the Section 483 Rules discussed below, if the transaction is open for United States federal income tax purposes, the CVRs would not be taken into account in determining the holder's taxable gain upon receipt of the merger consideration and a United States holder would take no tax basis in the CVRs, but would recognize capital gain as payments with respect to the CVRs are made or deemed made in accordance with the United States holder's regular method of accounting, but only to the extent the sum of such payments (and all previous payments under the CVRs), together with the amount received upon consummation of the merger discussed above, exceeds such United States holder's adjusted tax basis in the Metabasis common stock surrendered pursuant the merger.

Subject to the Section 483 Rules discussed below, if the transaction is open for United States federal income tax purposes, a United States holder who does not receive cumulative payments pursuant to the merger with a fair market value at least equal to such United States holder's adjusted tax basis in the Metabasis common stock surrendered pursuant the merger, will recognize a capital loss in the year that the United States holder's right to receive further payments under the CVRs terminates.

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Gain or loss recognized in the transaction must be determined separately for each identifiable block of Metabasis common stock surrendered in the merger (i.e., shares of Metabasis common stock acquired at the same cost in a single transaction). Any such gain or loss will be long-term if the Metabasis common stock is held for more than one year before such disposition. With respect to gain in taxable years commencing before January 1, 2011, the maximum long-term capital gain tax rate for an individual United States holder is 15%. For gain in taxable years after December 31, 2010, under current law the long-term capital gain rate for an individual United States holder is 20%. The deductibility of both long-term and short-term capital loss is subject to certain limitations.

Treatment as Closed Transaction. If the value of the CVRs can be reasonably ascertained the transaction should generally be treated as closed for United States federal income tax purposes, in which event a United States holder should generally recognize capital gain or loss for United States federal income tax purposes upon consummation of the merger equal to the difference between (x) the sum of (i) the fair market value of the CVRs received, and (ii) the amount of cash received, and (y) such United States holder's adjusted tax basis in the Metabasis common stock surrendered pursuant the merger.

Basis and Holding Period. If the transaction is closed for United States federal income tax purposes, a United States holder's initial tax basis in the CVRs will equal the fair market value of the CVRs on the date of the consummation of the merger. The holding period of the CVRs will begin on the day following the date of the consummation of the merger.

Future Payments on the CVRs

Treatment as Open Transaction. If the transaction is treated as an open transaction, a payment pursuant to a CVR to a United States holder of a CVR should be treated as a payment under a contract for the sale or exchange of Metabasis common stock to which Section 483 of the Code applies (the Section 483 Rules). Under the Section 483 Rules, a portion of the payments made pursuant to a CVR will be treated as interest, which will be ordinary income to the United States holder of a CVR. The interest amount will equal the excess of the amount received over its present value at the consummation of the merger, calculated using the applicable federal rate as the discount rate. The United States holder of a CVR must include in its taxable income interest pursuant to the Section 483 Rules using such United States holder's regular method of accounting. The portion of the payment pursuant to a CVR that is not treated as interest under the Section 483 Rules will generally be treated as a payment with respect to the sale of Metabasis common stock, as discussed above.

Treatment as Closed Transaction. If the transaction is treated as a closed transaction, there is no direct authority with respect to the tax treatment of holding and receiving payments with respect to property similar to the CVRs. It is possible that payments received with respect to a CVR, up to the amount of the holder's adjusted tax basis in the CVR, may be treated as a non-taxable return of a United States holder's adjusted tax basis in the CVR, with any amount received in excess of basis treated as gain from the disposition of the CVR. Additionally, a portion of any payment received with respect to a CVR may constitute imputed interest or as ordinary income under the Section 483 Rules. If not treated as described above, payments with respect to a CVR may be treated as either (i) payments with respect to a sale of a capital asset, (ii) ordinary income or (iii) dividends.

Due to the legal and factual uncertainty regarding the valuation and tax treatment of the CVRs, you are urged to consult your tax advisors concerning the recognition of gain, if any, resulting from the receipt of the CVRs in the merger and the receipt of payments, if any, under the CVRs after the merger.

Information Reporting and Backup Withholding

Under United States federal income tax laws, the exchange agent appointed by Ligand will generally be required to report to a United States holder and to the IRS any payments made to a United States holder in exchange for Metabasis common stock in the merger, and may be required to backup withhold 28% of any such payment. In addition, payments pursuant to the CVRs may be subject to back-up withholding and

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information reporting. To avoid such backup withholding, a United States holder should provide the exchange agent or other applicable person a properly completed Form W-9 (or appropriate substitute form), signed under penalties of perjury, including such holder's current Taxpayer Identification Number, or TIN, and other certifications. If the United States holder does not provide the exchange agent with a TIN and other required certifications, the exchange agent will backup withhold 28% of payments made to the holder (unless the holder is an exempt recipient as described in the next sentence and demonstrates this fact).

Certain United States holders (including, among others, corporations) are exempt from these backup withholding and reporting requirements. Exempt holders who are not subject to backup withholding should indicate their exempt status on a Form W-9 by entering their correct TIN, marking the appropriate box and signing and dating the W-9 in the space provided.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against a United States holder's United States federal income tax liability provided the required information is timely furnished to the IRS.

Anticipated Accounting Treatment

In accordance with generally accepted accounting principles in the United States, Ligand will account for the merger under the acquisition method of accounting in accordance with ASC Topic 805, Business Combinations, as amended. Under the acquisition method of accounting, the total estimated purchase price, calculated as described in Note 2 to the unaudited pro forma condensed combined financial statements included in this proxy statement/prospectus, is allocated to the net tangible and intangible assets of Metabasis based on their estimated fair values. Management has made a preliminary allocation of the estimated purchase price to the tangible and intangible assets acquired and liabilities assumed based on various preliminary estimates. A final determination of these estimated fair values, which cannot be made before the completion of the merger, will be based on the actual net tangible and intangible assets of Metabasis that exist as of the date of completion of the merger, and upon the final purchase price.

Appraisal Rights of Dissenting Metabasis Stockholders

In connection with the merger, record holders of Metabasis common stock who comply with the procedures summarized below will be entitled to appraisal rights if the merger is consummated. The following discussion is not a complete discussion of the law pertaining to appraisal rights under Section 262 of the Delaware General Corporate Law, or Section 262, and is qualified in its entirety by the full text of Section 262 which is attached to this proxy statement/prospectus as *Annex F*. The following summary does not constitute any legal or other advice, nor does it constitute a recommendation that Metabasis stockholders exercise their right to seek appraisal under Section 262. All references in Section 262 and in this summary to a stockholder are to the record holder of the shares of Metabasis common stock as to which appraisal rights are asserted. A person having a beneficial interest in shares of Metabasis common stock held of record in the name of another person, such as a broker, fiduciary, depository or other nominee, must act promptly to cause the record holder to follow the steps summarized below properly and in a timely manner to perfect appraisal rights, or else those rights will be lost.

Under Section 262, holders of shares of Metabasis common stock who do not vote in favor of adoption of the merger agreement and the transactions contemplated thereby, including the merger, and who otherwise follow the procedures set forth in Section 262 will be entitled to have their shares appraised by the Delaware Court of Chancery and to receive payment of the fair value of the shares, exclusive of any element of value arising from the accomplishment or expectation of the merger, together with a fair rate of interest, if any, as determined by the court. Metabasis stockholders should be aware that investment banking opinions as to the fairness from a financial point of view of the merger consideration are not opinions as to fair value under Section 262.

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Under Section 262, where a merger is to be submitted for approval at a meeting of stockholders, as in the case of the adoption of the merger agreement and approval of the merger, by Metabasis stockholders, the corporation, not less than 20 days before the meeting, must notify each of its stockholders entitled to appraisal rights that appraisal rights are available and include in the notice a copy of Section 262. This proxy statement/prospectus shall constitute the notice, and the full text of Section 262 is attached to this proxy statement/prospectus as *Annex F*. Any holder of Metabasis common stock who wishes to exercise appraisal rights or who wishes to preserve such holder's right to do so, should review the following discussion and *Annex F* carefully because failure to timely and properly comply with the procedures specified will result in the loss of appraisal rights. Due to the complexity of the procedures for exercising the right to seek appraisal, Metabasis stockholders who are considering exercising such rights are urged to seek the advice of legal counsel.

Metabasis stockholders of record who desire to exercise their appraisal rights must satisfy all of the following conditions. They must:

hold of record shares of Metabasis common stock on the date the written demand for appraisal is made and continue to hold the shares of record through the effective time of the merger;

deliver to the Corporate Secretary of Metabasis, before the vote on the adoption of the merger agreement, a written demand for the appraisal of the stockholder's shares; and

not vote such stockholder's shares of common stock in favor of, or consent in writing to, the adoption of the merger agreement and the transactions contemplated thereby, including the merger.

Neither voting against the adoption of the merger agreement and approval of the merger (either in person or by proxy), nor abstaining from voting or failing to vote on the proposal to adopt the merger agreement and approve the merger, will in and of itself constitute a written demand for appraisal satisfying the requirements of Section 262. The written demand for appraisal must be in addition to and separate from any proxy or vote. The demand must reasonably inform Metabasis of the identity of the holder as well as the intention of the holder to demand an appraisal of the fair value of the shares held by the holder. A stockholder's failure to make the written demand before the taking of the vote on the adoption of the merger agreement and approval of the merger at the Metabasis special meeting will constitute a waiver of appraisal rights.

Only a holder of record of shares of Metabasis common stock on the record date for the Metabasis special meeting is entitled to assert appraisal rights for the shares registered in that holder's name. A demand for appraisal in respect of shares of Metabasis common stock should be executed by or on behalf of the holder of record, fully and correctly, as the holder's name appears on the holder's stock certificates, should specify the holder's mailing address and the number of shares registered in the holder's name, and must state that the person intends to demand appraisal of the holder's shares pursuant to the merger agreement. If the shares are owned of record in a fiduciary capacity, such as by a trustee, guardian or custodian, execution of the demand should be made in that capacity. If the shares are owned of record by more than one person, as in a joint tenancy and tenancy in common, the demand should be executed by or on behalf of all joint owners. An authorized agent, including an agent for two or more joint owners, may execute a demand for appraisal on behalf of a holder of record. However, the agent must identify the record owner or owners and expressly disclose the fact that, in executing the demand, the agent is acting as agent for the record owner or owners. A record holder such as a broker who holds shares as nominee for several beneficial owners may exercise appraisal rights with respect to the shares held for one or more beneficial owners while not exercising the rights with respect to the shares held for other beneficial owners. In such case, however, the written demand should set forth the number of shares as to which appraisal is sought. If no number of shares is expressly mentioned, the demand will be presumed to cover all shares of Metabasis common stock held in the name of the record owner. Stockholders who hold their shares in brokerage accounts or other nominee forms and who wish to exercise appraisal rights are urged to consult with their brokers to determine the appropriate procedures for the making of a demand for appraisal by such a nominee.

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A Metabasis stockholder of record who elects to demand appraisal of his or her shares must mail or deliver his or her written demand to: Metabasis Therapeutics, Inc., c/o Cooley Godward Kronish LLP, 4401 Eastgate Mall, San Diego, California 92121 Attention: Corporate Secretary. The written demand for appraisal should specify the stockholder's name and mailing address, the number of shares owned, and that the stockholder is thereby demanding appraisal of his or her shares, and such written demand must be received by Metabasis before the special meeting.

In addition, a Metabasis stockholder who desires to exercise appraisal rights must not vote such stockholder's shares of common stock in favor of adoption of the merger agreement and approval of the merger. A vote in favor of adoption of the merger agreement and approval of the merger, by proxy, via the Internet, or in person, will constitute a waiver of your appraisal rights and will nullify any previously filed written demands for appraisal. Because a proxy that is signed and does not contain voting instructions will, unless revoked, be voted in favor of adoption of the merger agreement and approval of the merger, a stockholder who votes by proxy and who wishes to exercise appraisal rights must vote against the merger agreement and approval of the merger, or abstain from voting on the merger agreement and approval of the merger.

Within 10 days after the effective time of the merger, Metabasis, which is referred to in the post-merger context as the surviving corporation, must notify each holder of Metabasis common stock who has complied with Section 262 and who has not voted in favor of the adoption of the merger agreement and approval of the merger, that the merger has become effective and shall include in such notice a copy of Section 262. Within 120 days after the effective time of the merger, the surviving corporation or any stockholder who has timely and properly demanded appraisal of his or her shares and who has complied with the required conditions of Section 262 and is otherwise entitled to appraisal rights may commence an appraisal proceeding by filing a petition in the Delaware Court of Chancery demanding a determination of the fair value of the shares of all Metabasis stockholders who have properly demanded appraisal. The surviving corporation is under no obligation to and has no present intention to file a petition. Accordingly, it is the obligation of the eligible holders of Metabasis common stock to initiate all necessary action to perfect their appraisal rights in respect of shares of Metabasis common stock within the time prescribed in Section 262. Notwithstanding the foregoing, any Metabasis stockholder that has not commenced an appraisal proceeding or joined any such proceeding within 60 days following the merger shall have the right to withdraw such stockholder's demand for appraisal and to accept the merger consideration. After this period, a 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 the surviving corporation.

Within 120 days after the effective time of the merger, any holder of Metabasis common stock who has complied with the requirements for exercise of appraisal rights will be entitled, upon written request, to receive from the surviving corporation a statement setting forth the aggregate number of shares of Metabasis common stock not voted in favor of the adoption of the merger agreement and the transactions contemplated thereby, including the merger, and the aggregate number of shares that have made demands for appraisal. The statement must be mailed within 10 days after a written request has been received by the surviving corporation or within 10 days after the expiration of the period for delivery of demands for appraisal, whichever is later.

If a petition for an appraisal is timely filed by a holder of shares of Metabasis common stock and a copy is served upon the surviving corporation, the surviving corporation will then be obligated within 20 days to file with the Delaware Register in Chancery a duly verified list containing the names and addresses of all stockholders who have demanded an appraisal of their shares and with whom agreements as to the value of their shares have not been reached. After notice to the stockholders as required by the Court, the Delaware Court of Chancery is empowered to conduct a hearing on the petition to determine those stockholders who have complied with Section 262 and who have become entitled to appraisal rights thereunder. The Delaware Court of Chancery may require the stockholders who demanded payment for their shares to submit their stock certificates to the Register in Chancery for notation on the certificates of the pending appraisal proceeding. If any stockholder fails to comply with the direction, the Delaware Court of Chancery may dismiss the proceedings as to that stockholder.

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After determining the holders of Metabasis common stock entitled to appraisal, the Delaware Court of Chancery will determine the fair value of shares of the Metabasis common stock exclusive of any element of value arising from the accomplishment or expectation of the merger, together with interest, if any, to be paid upon the amount determined to be the fair value.

In determining fair value, and, if applicable, a fair rate of interest, the Delaware Court of Chancery is to take into account all relevant factors.

Metabasis stockholders considering seeking appraisal should bear in mind that the fair value of their shares of common stock as determined under Section 262 could be more than, the same as, or less than the merger consideration they are entitled to receive pursuant to the merger agreement if they do not seek appraisal of their shares, and that opinions of investment banking firms as to the fairness from a financial point of view of the merger consideration payable in a merger are not opinions as to fair value under Section 262.

The cost of the appraisal proceeding (which does not include attorneys' fees or the fees or expenses of experts) may be determined by the Delaware Court of Chancery and levied upon the parties as the Delaware Court of Chancery deems equitable in the circumstances. Upon application of a stockholder seeking appraisal rights, the Delaware Court of Chancery may order that all or a portion of the expenses incurred by such 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 entitled to appraisal. In the absence of such a determination of assessment, each party bears its own expenses.

Except as explained in the last sentence of this paragraph, at any time within 60 days after the effective time of the merger, any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party will have the right to withdraw his or her demand for appraisal and to accept the merger consideration to which such stockholder is entitled pursuant to the merger. After this period, such holder may withdraw his or her demand for appraisal only with the consent of the surviving corporation. If no petition for appraisal is filed with the Delaware Court of Chancery within 120 days after the effective time of the merger, Metabasis stockholders' rights to appraisal will cease and all Metabasis stockholders will be entitled only to receive the merger consideration as provided for in the merger agreement.

Failure to comply with all of the procedures set forth in Section 262 will result in the loss of a stockholder's statutory appraisal rights. In view of the complexity of Section 262, stockholders who wish to dissent from the merger and pursue appraisal rights should consult their legal advisors before attempting to exercise such rights.

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CERTAIN TERMS OF THE MERGER AGREEMENT

The following description of the merger agreement describes certain material terms of the merger agreement, the CVR agreements, and other transaction documents. The full text of the merger agreement and the forms of CVR agreements are attached as *Annex A*, *Annex B*, *Annex C*, *Annex D* and *Annex E* to this proxy statement/prospectus and are incorporated herein by reference. Metabasis stockholders are encouraged to read the entire merger agreement, CVR agreements and the other annexes to this proxy statement/prospectus.

The merger agreement, the CVR agreements and the other annexes attached to this proxy statement/prospectus were included to provide investors and security holders with information regarding their respective terms. These agreements are not intended to provide any other factual information about Ligand or Metabasis. The merger agreement and the forms of CVR agreements attached as annexes to this proxy statement/prospectus contain representations and warranties that the parties thereto made to, and solely for the benefit of, each other, and such representations and warranties may be subject to standards of materiality applicable to the contracting parties that differ from those applicable to investors. The assertions embodied in Metabasis' representations and warranties in the merger agreement are qualified by information in a confidential disclosure letter that Metabasis delivered to Ligand in connection with the execution of the merger agreement. Accordingly, investors and security holders should not rely on the representations and warranties as characterizations of the actual state of facts. Moreover, information concerning the subject matter of the representations and warranties may change after the date of the merger agreement which subsequent information may or may not be fully reflected in Ligand's or Metabasis' public disclosures.

The Merger

At the effective time of the merger, Ligand's wholly-owned subsidiary, Moonstone Acquisition, Inc., or Merger Sub, will be merged with and into Metabasis, with Metabasis continuing as the surviving corporation. Upon completion of the merger, the directors and officers of Metabasis will have resigned, and Ligand will appoint Ligand personnel as the directors and officers of the surviving corporation.

Effective Time of the Merger

The merger agreement provides that the merger will become effective when a certificate of merger executed by Metabasis and Merger Sub is filed with the Secretary of State of the State of Delaware.

Manner and Basis of Converting Shares

The merger agreement provides that, at the effective time of the merger, each share of Metabasis common stock then outstanding (other than shares held by Ligand, Merger Sub or Metabasis or shares for which appraisal rights have been properly demanded) will automatically be converted into the right to receive:

a proportionate share of a closing cash payment equal to \$3,207,500 less \$150,000, which is to be contributed to an account to cover the costs, expenses and compensation of the Stockholders' Representative, and either (i) plus the positive net cash (as defined in the merger agreement) of Metabasis at the closing of the merger or (ii) less the negative net cash (as defined in the merger agreement) of Metabasis at the closing of the merger;

any such cash received being referred to in this proxy statement/prospectus as the cash consideration; and

one Roche contingent value right, one TR Beta contingent value right, one Glucagon contingent value right, and one General contingent value right, each of which entitles the holder to a proportionate share of various contingent payments, payable upon certain events, which are referred to in this proxy statement/prospectus as the CVRs. See CVR Agreements for a description of the conditions to be satisfied for the contingent payments. Each CVR will be issued in book-entry form only.

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The merger agreement defines Metabasis net cash as an amount calculated on the assumption that the merger has occurred and equal to (i) the sum of (a) all cash (including any payments received by Metabasis from the exercise of Metabasis stock options or warrants, cash equivalents, marketable securities and accounts receivable (net of accounts receivable reserves established as required by GAAP) held by Metabasis its subsidiaries (but excluding the Roche Program consideration and 7133 Program consideration, if any, received by Metabasis before the merger) and (b) all fees and expenses actually incurred by Metabasis in connection with any 7133 Program transaction that is consummated before the merger; minus (ii) the sum of (A) \$360,000 if Metabasis has not before the merger purchased a tail prepaid policy on the director and officer insurance policy as contemplated by the merger agreement, (B) any amount payable by Metabasis for the out-of-pocket transaction fees and expenses of Metabasis to its legal and financial advisors and accountants in connection with the merger agreement and the merger-related transactions, (C) any amount payable by Metabasis for expenses incurred in connection with the preparation, filing, printing and mailing of this proxy statement/prospectus and the solicitation of proxies for use at the special meeting, (D) except as otherwise covered in item (E) below, all severance payments, stay bonuses and performance bonuses payable to all employees, consultants and directors of Metabasis and its subsidiaries assuming that the service relationship of all such employees, consultants and directors with Metabasis and its subsidiaries is terminated as of the closing date, even if such service relationship in fact does continue after the closing date, (E) all severance payments, stay bonuses and performance bonuses remaining payable at the closing date to all employees, consultants and directors of Metabasis and its subsidiaries whose service relationship with Metabasis and its subsidiaries is terminated on or before the effective time of the merger, (F) the salary, employer-tax and benefits cost of the continuation of employment of any Metabasis employees, as a result of the advance-notice requirements of their respective employment agreements, beyond the effective time of the merger until their actual termination date, if before the effective time of the merger Ligand requests Metabasis to terminate such employees, and (G) to the extent not included in any item, all accounts payable all accounts payable, notes payable, lease payables and other capital-item liabilities and other liabilities (other than (x) non-cash items, (y) any contingent payments payable in respect of post-merger transactions by Metabasis to Metabasis landlord ARE-SD Region No. 24, LLC or its affiliates or (z) any contingent severance payments payable in respect of post-merger transactions to the employees that were terminated in Metabasis May 2009 reduction in force) of Metabasis and its subsidiaries; provided that all such amounts shall be determined in a manner consistent with the manner in which such items were determined by Metabasis in the most recent balance sheet included in Metabasis financial statements. Metabasis intends to purchase a directors and officers insurance tail policy before the merger and the surviving entity will maintain such policy, which will cover those persons who are covered by Metabasis directors and officers insurance policy for events occurring before the effective time of the merger on terms no less favorable than those applicable to the current directors and officers of Metabasis for six years, subject to certain limitations.

Metabasis currently estimates the cash consideration payable to Metabasis stockholders at the closing to be approximately \$1.8 million.

The cash consideration and the contingent value rights are collectively referred to in this proxy statement/prospectus as the merger consideration.

Under the terms of the merger agreement, promptly following the effective time of the merger, an exchange agent appointed by Ligand will mail to each record holder of Metabasis common stock a letter of transmittal and instructions for use, which record holders will use to exchange Metabasis common stock certificates for the merger consideration. Metabasis common stock certificates should not be surrendered for exchange by Metabasis stockholders before the effective time of the merger.

After the effective time of the merger, transfers of Metabasis common stock will not be registered on the stock transfer books of Metabasis, and each certificate that previously evidenced Metabasis common stock will be deemed to evidence the right to receive the merger consideration.

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Metabasis Stock Options and Warrants

Stock Options

By operation of the Metabasis Therapeutics, Inc. Amended and Restated 2001 Equity Incentive Plan and the Metabasis Therapeutics, Inc. 2004 Non-Employee Directors Stock Option Plan, in each case, as amended from time to time, all outstanding options to purchase shares of Metabasis common stock from Metabasis, whether granted by Metabasis pursuant to its equity plans or otherwise, whether or not then vested, will become fully vested and exercisable on the closing date. Metabasis board of directors, by operation of existing agreements or by resolution, will take all requisite actions such that immediately before the effective time of the merger (i) each holder of outstanding Metabasis options shall be entitled to exercise in full all Metabasis options held by such holder by paying the exercise price therefor in exchange for the shares of Metabasis common stock in accordance with the applicable Metabasis equity plan, and (ii) all outstanding Metabasis options not exercised shall at the effective time of the merger be terminated and canceled without any payment or liability on the part of Metabasis.

Warrants

Metabasis has agreed to use reasonable best efforts to enter into agreements with the holders of outstanding Metabasis warrants to terminate and cancel all such warrants, effective immediately before the effective time of the merger, without any payment or liability on the part of Metabasis. If any Metabasis warrant remains outstanding after the effective time of the merger and the holder thereof exercises such warrant before its expiration date, then Ligand shall issue and pay in respect of each exercised warrant in exchange for the payment of the applicable exercise price, on a per-exercised-share basis, equivalent consideration as is paid in respect of each issued and outstanding share of Metabasis common stock as of immediately before the merger.

Representations and Warranties

The merger agreement contains customary representations and warranties of Metabasis, Ligand and Merger Sub relating to, among other things, certain aspects of the respective businesses and assets of the parties and other matters. The representations and warranties expire at the effective time of the merger.

Metabasis Interim Operations

Metabasis has agreed that, during the period from the date of the merger agreement through the earlier of the effective time of the merger or the date of termination of the merger agreement, except to the extent Ligand shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned), or except as set forth in the Metabasis disclosure letter, or except as expressly required by the merger agreement, Metabasis shall and shall cause each of its subsidiaries to use its reasonable best efforts to (i) conduct their businesses in the ordinary course of business, (ii) preserve intact their present business organizations, (iii) maintain satisfactory relations with and keep available the services of their current officers and other key employees and (iv) preserve existing relationships with material customers, lenders, suppliers, distributors and others having material business relationships and not to:

amend its certificate of incorporation or bylaws or equivalent organizational documents;

split, combine, subdivide or reclassify any shares of its capital stock;

declare, set aside or pay any dividend (whether payable in cash, stock or property) with respect to any shares of its capital stock (except with respect to shares of the capital stock of a Metabasis subsidiary that is directly or indirectly wholly owned by Metabasis);

issue, sell, pledge, transfer, deliver, dispose of or encumber any shares of, or securities convertible or exchangeable for, or options or rights to acquire, any shares of its capital stock, voting securities, phantom stock, phantom stock rights, stock based performance units or other securities that derive their

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value by reference to such capital stock or voting securities, other than the issuance of shares of Metabasis common stock upon the exercise of Metabasis options or warrants;

transfer, lease or license to any third party, or subject to an encumbrance (except for permitted encumbrances), any assets of Metabasis or any subsidiary (excluding the 7133 Program) other than: (i) sales in the ordinary course of business; or (ii) dispositions of obsolete assets;

repurchase, redeem or otherwise acquire or offer to repurchase, redeem or otherwise acquire any shares of its capital stock other than pursuant to the forfeiture provisions applicable to the Metabasis options or pursuant to the exercise or tax withholding provisions applicable to the Metabasis options;

acquire (whether pursuant to merger, stock or asset purchase or otherwise) or lease (i) any asset or assets, except for (A) purchases of raw materials, equipment and supplies in the ordinary course of business or (B) capital expenditures in accordance with the merger agreement, or (ii) any equity interests (except for marketable securities acquired by Metabasis from time to time in connection with its normal cash management activities);

incur, issue, repurchase, modify or assume any indebtedness or guarantee any such indebtedness;

make any loans, advances or capital contributions, or investments other than (i) loans, advances or capital contributions to, or investments in, a Metabasis subsidiary that is directly or indirectly wholly owned by Metabasis in the ordinary course of business, (ii) advances to employees in respect of travel and other expenses in the ordinary course of business, and (iii) investments made by Metabasis in marketable securities in connection with its normal cash management activities;

(i) increase benefits under any employee benefit plan or any other material employee plan or agreement, except as required by applicable legal requirements, (ii) increase or otherwise change the method for funding or insuring benefits under any employee benefit plan or any other material employee plan or agreement, except as required by applicable legal requirements, (iii) (A) establish, adopt, enter into, amend or terminate any employee benefit plan or any other material employee plan or agreement that is an employee benefit plan as defined in Section 3(3) of ERISA or other any other arrangement that would be an employee benefit plan under ERISA if it were in existence as of the date of the merger agreement, except as required by applicable legal requirements, or (B) establish, adopt, enter into, amend or terminate any collective bargaining agreement, employee benefit plan or any other material employee plan or agreement that is not an employee benefit plan under ERISA or any plan, agreement, program, policy, trust, fund or other arrangement that would be an employee benefit plan or any other material employee plan or agreement that is not an employee benefit plan under ERISA if it were in existence as of the date of the merger agreement, except in the ordinary course of business or as required by applicable legal requirements (including, without limitation, Section 409A of the Code), (iv) grant any increase in the rates of salaries, compensation or fringe or other benefits payable to any executive officer of Metabasis (other than as required by applicable legal requirements or pursuant to non-discretionary provisions of agreements in effect as of the date of the merger agreement), (v) grant any increase in the rates of salaries, compensation or fringe or other benefits payable to any employee, except increases that are required by legal requirements or pursuant to non-discretionary provisions of agreements in effect as of the date hereof, (vi) grant or pay any bonus of any kind or amount whatsoever to any current or former director or officer or any employee of Metabasis or any Metabasis subsidiary (other than pursuant to the non-discretionary provisions of agreements in effect as of the date of the merger agreement) or (vii) grant or pay any stay or severance or termination pay or increase in any manner the stay or severance or termination pay of any current or former director, officer, employee or consultant of Metabasis or any Metabasis subsidiary other than as required by applicable legal requirements or pursuant to non-discretionary provisions of agreements in effect as of the date of the merger agreement;

settle or compromise any claim (presented formally to a judicial or quasi-judicial governmental entity), lawsuit, court action, suit, arbitration or other judicial or administrative proceeding (whether or not commenced before the date of the merger agreement), other than settlements or compromises of

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claims, lawsuits, court actions, suits, arbitration or other judicial or administrative proceedings where the amount paid (after giving effect to insurance proceeds actually received) in settlement or compromise does not exceed Metabasis' reserves on its books therefor by more than \$10,000, or for any claim, lawsuit, court action, suit, arbitration or other judicial or administrative proceeding for which Metabasis has not yet reserved, in an amount therefor that does not exceed \$20,000;

enter into any new, or amend or prematurely terminate any current, Metabasis agreement or waive, release or assign any rights or claims under any Metabasis agreement (except (i) in the ordinary course of business or (ii) where the failure to amend or terminate a Metabasis agreement would, in the reasonable judgment of the Metabasis board of directors, have a material adverse effect);

change any of its methods of accounting or accounting practices in any material respect, other than changes required by GAAP or legal requirements;

make any material tax election (except for elections made in the ordinary course of business);

make any capital expenditure that is not contemplated by the capital expenditure budget set forth in the Metabasis disclosure letter, except that Metabasis or any Metabasis subsidiary: (A) may make any non-budgeted capital expenditure that does not individually exceed \$5,000 in amount; and (B) may make any non-budgeted capital expenditure that, when added to all other non-budgeted capital expenditures made by Metabasis and Metabasis' subsidiaries since the date of the merger agreement, would not exceed \$25,000 in the aggregate;

adopt a plan of complete or partial liquidation or dissolution;

take any action that is intended or would reasonably be expected to result in any of the conditions to the merger not being satisfied; or

authorize or enter into any agreement or otherwise make any commitment to do any of the foregoing.

Ligand's Interim Operations

Ligand has agreed that, during the period from the date of the merger agreement through the earlier of the effective time of the merger or the date of termination of the merger agreement, except to the extent Metabasis shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned) or as expressly required by the merger agreement, Ligand shall and shall cause each of its subsidiaries to use its reasonable best efforts to conduct their businesses in the ordinary course of business or otherwise to an anticipated advantage, and not to:

amend its certificate of incorporation;

split, combine, subdivide or reclassify any shares of its capital stock;

declare, set aside or pay any dividend (whether payable in cash, stock or property) with respect to any shares of its capital stock (except with respect to shares of the capital stock of a Ligand subsidiary that is directly or indirectly wholly owned by Ligand);

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change any of its methods of accounting or accounting practices in any material respect, other than changes required by GAAP or legal requirements;

adopt a plan of complete or partial liquidation or dissolution;

make any material tax election (except for elections made in the ordinary course of business);

take any action that is intended or would reasonably be expected to result in any of the conditions to the merger not being satisfied;
or

authorize or enter into any agreement or otherwise make any commitment to do any of the foregoing.

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Covenants

Covenants of Metabasis

Under the terms of the merger agreement, Metabasis has agreed that it will, among other things, and subject to specified exceptions:

use reasonable best efforts to enter into agreements with the holders of the outstanding Metabasis warrants to terminate and cancel all such warrants, effective immediately before the effective time of the merger, without any payment or liability on the part of Metabasis;

give prompt notice to Ligand of any demands received by Metabasis for appraisal of shares of Metabasis common stock, withdrawals of such demands and any other instruments served pursuant to the Delaware General Corporation Law received by Metabasis;

before the effective time of the merger, take all such steps as may be required to cause any dispositions of Metabasis common stock (including derivative securities with respect to Metabasis common stock) resulting from the merger by each individual who is subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Metabasis to be exempt under Rule 16b-3 promulgated under the Exchange Act, including, without limitation, actions in accordance with that certain No-Action Letter dated January 12, 1999 issued by the SEC regarding such matters;

promptly inform Ligand if any event or circumstance relating to Metabasis or any Metabasis subsidiary, or their respective officers or directors, should be discovered by Metabasis which should be set forth in an amendment or a supplement to the registration statement or the proxy statement;

if and to the extent so requested by Ligand, as of immediately before the effective time of the merger terminate (and/or provide written notice of termination in accordance with any employment or consulting agreement requiring advance notice of termination of) the service relationship with Metabasis and the Metabasis subsidiaries of all employees, consultants and directors of Metabasis and the Metabasis subsidiaries and take all customary ancillary actions in connection with such termination (including giving them written notice of such termination);

if so requested by Ligand in writing, before the effective time of the merger, amend Metabasis 401(k) plan to require, in the event of plan termination, in-kind distribution of any CVRs in a participant's account, and take all customary ancillary actions in connection with such amendment, and whether or not such amendment shall have been requested, Metabasis shall as of immediately before the effective time of the merger terminate its 401(k) plan and take all customary ancillary actions in connection with such termination; and

upon reasonable advance written notice, afford Ligand and its representatives reasonable access, during normal business hours throughout the period before the effective time of the merger, to its books and records and, during such period, shall, and shall cause its subsidiaries to, furnish promptly to Ligand all readily available information concerning its business as Ligand may reasonably request.

Covenants of Ligand

Under the terms of the merger agreement, Ligand has agreed that it will, among other things, and subject to specified exceptions:

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cause all Metabasis shares owned by Ligand, Merger Sub or their affiliates, if any, to be voted in favor of adoption of the merger agreement and approval of the merger;

promptly inform Metabasis if any event or circumstance relating to Ligand or any Ligand subsidiary, or their respective officers or directors, should be discovered by Ligand which should be set forth in an amendment or a supplement to the registration statement or the proxy statement;

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use commercially reasonable efforts to negotiate and agree to terms with as many of Edgardo Baracchini, David Bullough, Glenn Dourado and Barry Gumbiner as possible to engage them as consultants for the purpose of assisting in Ligand's efforts toward selling or licensing the 7133 Program by the sixth-month anniversary of the merger, and use commercially reasonable efforts to cause its management to implement any particular proposed sale or license of the 7133 Program recommended by such consultants on terms and conditions that do not create a commercially unreasonable risk of liability to Ligand;

honor the terms of the employment agreements listed on the Metabasis disclosure letter;

honor in accordance with their terms the obligations of Metabasis to provide continued medical and dental coverage to employees under the terms of the employment agreements listed on the Metabasis disclosure letter, including, without limitation, the payment of continuing severance payments for the period set forth in such employment agreements, and as and to the extent required by applicable law, continue to provide COBRA continuation coverage to former employees of Metabasis, with the understanding that Metabasis health plans will be terminated and coverage will instead be provided through Ligand's health plans;

before the first anniversary of the merger, (i) initiate research, development or commercialization efforts on the Glucagon Program and the TR Beta Program; and (ii) spend at least \$350,000 on at least one of the drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPAse Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program (but not including the TR Beta Program, the Glucagon Program and the 7133 Program); provided, however, that if Ligand does not so spend at least \$350,000, the difference between \$350,000 and the amount spent as of such anniversary date on the one of the programs referenced in clause (ii) with the greatest spending will be distributed pursuant to the General CVR agreement unless the Stockholders Representative, with the written consent of the holders of at least 20% of the General CVRs, consents to negate such requirement;

spend, before the 30th-month anniversary of the merger, an aggregate of at least \$7,000,000 (inclusive of the previously-mentioned \$350,000) on the Metabasis drug development programs (not limited to the programs specified in the previous bullet point); provided, however, that if Ligand does not spend an aggregate of \$7,000,000, the difference between \$7,000,000 and the amount spent as of such 30th-month anniversary date will be distributed pursuant to the General CVR agreement unless (i) the Stockholders Representative, with the written consent of the holders of at least 20% of the General CVRs, consents to negate such requirement, (ii) Ligand provides the Stockholders Representative with reasonable evidence that Ligand has entered into a partnering agreement with a third party to commercialize one of the Metabasis drug development programs and such agreement has a value of at least \$100,000,000 in upfront and milestone proceeds or (iii) Ligand provides the Stockholders Representative with reasonable evidence that Ligand has ceased funding the TR Beta Program and the Glucagon Program; and

spend, before the 42nd-month anniversary of the merger, an aggregate of at least \$8,000,000 (inclusive of the previously-mentioned \$350,000 and \$7,000,000) on the Metabasis drug development programs, with the difference between \$8,000,000 and the amount spent as of such 42nd-month anniversary date to be distributed pursuant to the General CVR agreement unless the Stockholders Representative, with the written consent of the holders of at least 20% of the General CVRs, consents to extend such 42-month period an extra six months.

For the above purposes, the following shall be deemed to have been spent by Ligand : (i) 100% of reasonable out-of-pocket expenses paid to third parties by Ligand or the surviving corporation for goods or services actually provided after the effective time of the merger, or which is an account payable of Ligand or the surviving corporation for goods or services actually provided after the effective time of the merger, in each case which relates directly to the research and development of such drug development programs (including, without limitation, equipment, supplies, outsource firms, patent attorneys, filing fees, etc.); (ii) \$350,000 per one year full

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time equivalent effort (1,875 hours per year of scientific work) of one scientist with either a B.Sc., M.S. or Ph.D. or equivalent degree, or FTE (plus a proportional amount per fractional FTE) working on or directly related to and in support of such programs; and (iii) any previous shortfall amount paid under the General CVR agreement.

Covenants of Ligand and Metabasis

Under the terms of the merger agreement, Ligand and Metabasis have agreed that they will, among other things, and subject to specified exceptions:

as promptly as practicable after the execution of the merger agreement prepare and file with the SEC a registration statement in connection with the issuance of the CVRs in the merger and a proxy statement/prospectus to solicit adoption of the merger agreement by the stockholders of Metabasis, and use all reasonable efforts to have the registration statement declared effective under the Securities Act as promptly as practicable after such filing;

promptly make and effect all registrations, filings and submissions required to be made or effected by it pursuant to the Exchange Act and other applicable legal requirements with respect to the transactions contemplated by the merger agreement and use its reasonable best efforts to cause to be taken, on a timely basis, all other actions necessary or appropriate for the purpose of consummating and effectuating the transactions contemplated by the merger agreement;

give the other party prompt notice of the making or commencement of any request, inquiry, investigation, action or legal proceeding by or before any governmental entity with respect to the transactions contemplated by the merger agreement, keep the other party informed as to the status of any such request, inquiry, investigation, action or legal proceeding and promptly inform the other party of any communication to or from any governmental entity regarding the transactions contemplated by the merger agreement;

consult and cooperate with the other party and consider in good faith the views of the other party in connection with any analysis, appearance, presentation, memorandum, brief, argument, opinion or proposal made or submitted in connection with any request, inquiry, investigation, action or legal proceeding by or before any governmental entity with respect to the transactions contemplated by the merger agreement and except as may be prohibited by any governmental entity or by any legal requirement, in connection with any such request, inquiry, investigation, action or legal proceeding, each party hereto will permit authorized representatives of the other party to be present at each meeting or conference relating to such request, inquiry, investigation, action or legal proceeding and to have access to and be consulted in connection with any document, opinion or proposal made or submitted to any governmental entity in connection with such request, inquiry, investigation, action or legal proceeding;

use its reasonable best efforts to resolve such governmental-entity objections, if any, as may be asserted with respect to the transactions contemplated by the merger agreement;

use its reasonable best efforts to avoid the entry of, or to have vacated or terminated, any decree, order or judgment that would restrain, prevent or delay the consummation of the transactions contemplated by the merger agreement, including by defending through litigation on the merits any claim asserted in any court;

consult with each other and give due consideration to any reasonable additions, deletions or changes suggested by the other party and its counsel before issuing any press releases or otherwise making public statements with respect to the transactions contemplated by the merger agreement and before making any filings with any governmental entity with respect to the transactions contemplated by the merger agreement;

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not report the merger as a tax-free reorganization within the meaning of Section 368 of the Code; and

use its reasonable best efforts to cause the conditions to the other party's obligations to effect the merger and the other transactions contemplated by the merger agreement to be satisfied.

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Stockholders Representative

David F. Hale will, after the effective time of the merger, act as the Stockholders Representative for purposes of the merger agreement and CVR agreements. The responsibilities of the Stockholders Representative shall be to take such actions as may be necessary or appropriate to accomplish the intent and implement the provisions of the merger agreement and the CVR agreements, and to facilitate the consummation of the transactions contemplated thereby, including to (a) negotiate and enforce (or settle) matters arising under the merger agreement, (b) accept delivery of notices, (c) monitor fulfillment of Ligand's guaranteed funding obligations, (d) confirm satisfaction of Ligand's obligations under the CVR agreements, (e) negotiate and enforce (or settle) matters with respect to the amounts to be paid to the holders of CVRs and (f) enter into binding amendments or waivers of the former stockholders' and the CVR holders' rights under the merger agreement and the CVR agreements; provided, that before the delivery of any funding objection notice or notice of objection (as defined in the CVR agreements) or the filing of any other litigation or arbitration action or dispute process of any kind, the Stockholders Representative shall first obtain the assent of at least 20% of the then outstanding General CVR holders, in the case of a funding objection notice, or at least 20% of the CVRs then outstanding under the applicable CVR agreement under which such notice of objection is to be delivered, in the case of a notice of objection.

The Stockholders Representative fund will be funded, to cover the expenses and compensation of the Stockholders Representative, out of money otherwise payable to the Metabasis stockholders in an initial amount of \$150,000 and the fund will be augmented (to the extent such augmentation would not increase the fund to over \$300,000) by 1% of any amounts that are otherwise payable to CVR holders under any of the CVR agreements or that are subtracted from such amounts to make or reimburse payments related to certain contingent liabilities. The Stockholders Representative will be paid \$45,000 in annual compensation for serving as such. Following the last possible payment event under the General CVR agreement, any amounts remaining in the Stockholders Representative fund will be distributed to the holders of the CVRs upon the request of the holders of 20% of the General CVRs. In addition, the Stockholders Representative shall not be responsible for any loss suffered by, or liability of any kind to, the stockholders or holders of CVRs arising out of any act done or omitted by the Stockholders Representative in connection with the acceptance or administration of the Stockholders Representative's duties, unless such act or omission involves gross negligence or willful misconduct.

To the extent permitted by applicable law, in no event shall any holders of CVRs (as opposed to the Stockholders Representative) or any former stockholders of Metabasis (as opposed to the Stockholders Representative) have, after the effective time of the merger, any power or right to commence or join in any claim (presented formally to a judicial or quasi-judicial governmental entity), lawsuit, court action, suit, arbitration or other judicial or administrative proceeding based on or arising out of any CVR agreement or the merger agreement.

In the event that the Stockholders Representative dies, becomes unable to perform his responsibilities or resigns from such position, the holders of at least 34% of the then outstanding General CVRs shall be authorized to and shall select another representative reasonably acceptable to Ligand to fill such vacancy and such substituted representative shall be deemed to be the Stockholders Representative for all purposes of the merger agreement and the CVR Agreements.

In the event that within 30 days after the Stockholders Representative dies, becomes unable to perform his responsibilities or resigns from such position, no successor Stockholders Representative reasonably acceptable to Ligand has been so selected, the rights agent shall forthwith notify the person or entity holding the largest quantity of the outstanding General CVRs (and who is not a competitor of Ligand) that such person or entity is the successor Stockholders Representative. If such person or entity notifies the rights agent, Ligand and the surviving corporation in writing that such person or entity declines to serve, the rights agent shall forthwith notify the person or entity holding the next-largest quantity of the outstanding General CVRs (and who is not a competitor of Ligand) that such next-largest-quantity person or entity is the successor Stockholders Representative. (And so on, to the extent as may be necessary.)

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Indemnification; Directors and Officers Insurance

For a period of six years following the effective time of the merger, Ligand will cause the surviving entity and its subsidiaries to fulfill and honor the obligations of Metabasis and its subsidiaries pursuant to each indemnification agreement in effect on the date of the merger agreement between Metabasis or any of its subsidiaries and each present or former director and officer of Metabasis and any indemnification provision and any exculpation provision in favor of each present or former director and officer of Metabasis that is set forth in the certificate of incorporation or bylaws of Metabasis and the equivalent organizational documents of any Metabasis subsidiary in effect as of the date of the merger agreement. The certificate of incorporation and bylaws of the surviving entity shall contain the provisions with respect to indemnification and exculpation from liability set forth in Metabasis' certificate of incorporation and bylaws on the date of the merger agreement, and, from and after the effective time of the merger, such provisions shall not be amended, repealed or otherwise modified in any manner that could adversely affect the rights thereunder of any individual who is or was an officer or director of Metabasis at any time on or before the effective time of the merger.

Ligand will indemnify and hold harmless the present and former directors and officers of Metabasis against all liabilities arising out of the actions or omissions of such persons' service, including the advancement of certain expenses, for a period of six years following the effective time of the merger or for claims for which a written notice asserting such claim for indemnification before the sixth anniversary of the merger until such time as such claim is fully and finally resolved.

In addition, for a period of six years following the effective time of the merger, Ligand will cause the surviving entity to maintain in effect the current level and similar scope of directors' and officers' liability insurance coverage, provided that the surviving entity shall not be obligated to expend in any one year an amount in excess of \$60,000. In addition, before the merger, Metabasis may purchase a customary tail prepaid policy on Metabasis' D&O insurance policy for a total premium not to exceed \$360,000, or, in the alternative, Ligand will purchase such tail policy immediately following the merger (at Metabasis' expense). Ligand will cause the surviving corporation to maintain such tail policy in full force and effect and honor its obligations thereunder. Metabasis intends to purchase a directors' and officers' insurance tail policy before the merger and the surviving entity will maintain such policy, which will cover those persons who are covered by Metabasis' directors' and officers' insurance policy for events occurring before the effective time of the merger on terms no less favorable than those applicable to the current directors and officers of Metabasis for six years, subject to certain limitations.

Limitation on Metabasis' Ability to Consider Other Acquisition Proposals

Metabasis has agreed that it shall not, and shall not authorize or permit Metabasis' and Metabasis' subsidiaries', or any of their respective directors, officers, employees, investment bankers, attorneys and other agents or representatives to, directly or indirectly, not to:

solicit, initiate, knowingly encourage or knowingly induce the making, submission or announcement of an acquisition proposal;

furnish any non-public information relating to Metabasis in response to or in connection with an acquisition proposal;

participate or engage in discussions or negotiations with respect to an acquisition proposal; or

approve, endorse or recommend to the stockholders of Metabasis any acquisition proposal.

The foregoing restrictions do not prohibit Metabasis from engaging or participating in discussions or negotiations with any person that has made an acquisition proposal that the Metabasis board of directors determines in good faith constitutes or is reasonably likely to lead to a superior proposal, and in connection therewith furnishing to such party any non-public information relating to Metabasis and its subsidiaries pursuant to a confidentiality agreement, provided that the Metabasis board of directors shall first have determined in good faith that the failure to take such action is inconsistent with its fiduciary obligations to the stockholders of

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Metabasis and contemporaneously with furnishing any nonpublic information to such party, Metabasis furnishes such nonpublic information to Ligand.

Under the terms of the merger agreement, Metabasis has agreed to immediately cease and cause to be terminated any active discussions with any party (other than Ligand) that relate to any acquisition proposal.

Also, under the terms of the merger agreement, unless the Metabasis board of directors shall first have determined in good faith that the failure to take the following actions is inconsistent with its fiduciary obligations to the stockholders of Metabasis, Metabasis shall not release or permit the release of any party from, or waive or permit the waiver of any provision of, any confidentiality, standstill or similar agreement to which Metabasis is a party or under which Metabasis has any rights.

For purposes of the merger agreement, the term **acquisition proposal** generally means any unsolicited, bona fide offer or proposal (other than an offer or proposal made or submitted by Ligand or Merger Sub or any of their affiliates) relating to a possible transaction or series of related transactions (other than the transactions contemplated by the merger agreement) involving or resulting in: (i) any acquisition or purchase by any person or group (as defined in or under Section 13(d) of the Exchange Act), directly or indirectly, of more than 20% of the total outstanding voting securities of Metabasis, or any tender offer or exchange offer that, if consummated, would result in the person or group (as defined in or under Section 13(d) of the Exchange Act) making such offer beneficially owning more than 20% of the total outstanding voting securities of Metabasis, (ii) any merger, consolidation, share exchange, business combination, acquisition of securities, recapitalization, tender offer, exchange offer or other similar transaction involving Metabasis pursuant to which the stockholders of Metabasis immediately before the consummation of such transaction would hold less than 80% of the equity interests in the surviving or resulting entity of such transaction immediately after consummation thereof, or (iii) any sale (other than the sale of laboratory equipment), lease, exchange, transfer, license, acquisition or disposition of assets (other than the 7133 Program) constituting more than 10% of the assets of Metabasis (measured by either book or fair market value thereof) or the net revenues or net income of Metabasis and its subsidiaries taken as a whole.

For purposes of the merger agreement, the term **acquisition transaction** means any transaction or series of related transactions (other than the transactions contemplated by the merger agreement) involving or resulting in: (i) any acquisition or purchase by any person or group (as defined in or under Section 13(d) of the Exchange Act), directly or indirectly, of more than 20% of the total outstanding voting securities of Metabasis, or any tender offer or exchange offer that, if consummated, would result in the person or group (as defined in or under Section 13(d) of the Exchange Act) making such offer beneficially owning more than 20% of the total outstanding voting securities of Metabasis; (ii) any merger, consolidation, share exchange, business combination, acquisition of securities, recapitalization, tender offer, exchange offer or other similar transaction involving Metabasis pursuant to which the stockholders of Metabasis immediately before the consummation of such transaction would hold less than 80% of the equity interests in the surviving or resulting entity of such transaction immediately after consummation thereof; or (iii) any sale (other than the sale of laboratory equipment), lease, exchange, transfer, license, acquisition or disposition of assets (other than the 7133 Program) constituting more than 10% of the assets of Metabasis (measured by either book or fair market value thereof) or the net revenues or net income of Metabasis and its subsidiaries taken as a whole.

For purposes of the merger agreement, the term **superior proposal** means any unsolicited, bona fide written offer made by a third party unaffiliated with Metabasis to directly or indirectly acquire (by way of merger, tender or exchange offer or otherwise) greater than 95% of Metabasis' assets or greater than 95% of the outstanding Metabasis common stock (other than Metabasis common stock already held by such third party) that the Metabasis board of directors shall have determined in good faith (after consultation with Metabasis' outside legal counsel and financial advisor, and after taking into account, among other things, the financial, legal and regulatory aspects of such offer (including any financing required and the availability thereof), as well as any revisions to the terms of the merger agreement proposed by Ligand, is more favorable from a financial point of

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view to the stockholders of Metabasis than the terms of the merger (taking into account any revisions to the terms of the merger agreement proposed by Ligand) and is reasonably capable of being consummated on the terms proposed.

Obligations of the Metabasis Board of Directors with Respect to its Recommendation and Holding a Meeting of Stockholders

Metabasis agreed to duly set a record date for, call and establish a date for, and give notice of, a special meeting (with the record date and meeting date each set for a date as soon as reasonably practicable and in consultation with Ligand), and convene and hold the special meeting as soon as reasonably practicable after the date on which the registration statement becomes effective. This is the same special meeting to which this proxy statement/prospectus relates.

Under the terms of the merger agreement, Metabasis has also agreed that its board of directors will recommend that Metabasis stockholders vote to adopt the merger agreement. However, at any time before the approval of the Metabasis stockholders to adopt the merger agreement, Metabasis board of directors is entitled to withdraw or modify its recommendation that Metabasis stockholders vote to adopt the merger agreement if certain requirements, including either of the following, are satisfied:

(i) An acquisition proposal that constitutes a superior proposal has been made and not withdrawn, (ii) Metabasis board of directors determines in good faith that the failure to effect a change in recommendation in light of such superior proposal is inconsistent with its fiduciary obligations to the Metabasis stockholders under applicable law, (iii) Metabasis shall have given Ligand at least five days prior written notice advising Ligand that Metabasis board of directors has received a superior proposal, specifying the material terms and conditions of such superior proposal, including a copy of such superior proposal and identifying the party making such superior proposal and stating that it intends to modify or withdraw its recommendation that Metabasis stockholders adopt the merger agreement, (iv) during the five day period following Ligand's receipt of a notice of recommendation change, Metabasis shall have given Ligand the opportunity to meet with Metabasis, and at Ligand's request, shall have negotiated in good faith regarding the terms of possible revisions to the terms of the merger agreement and (v) Ligand shall not, within five days following Ligand's receipt of a notice of recommendation change, have made an offer that the Metabasis board of directors determines in good faith (after consultation with its outside legal counsel and financial advisor) to be at least as favorable to the stockholders of Metabasis as such superior proposal; or

other than in connection with a superior proposal, (i) the Metabasis board of directors determines in good faith that the failure to effect a change in recommendation is inconsistent with its fiduciary obligations to the stockholders of Metabasis under applicable law, (ii) at least five days before such change in recommendation, Metabasis shall have provided to Ligand a notice of its intention to make such change in recommendation, specifying in reasonable detail the circumstances for such proposed change in recommendation, and (iii) during the five day period following Ligand's receipt of a notice of recommendation change, Metabasis shall have given Ligand the opportunity to meet with Metabasis, and at Ligand's request, shall have negotiated in good faith regarding the terms of possible revisions to the terms of the merger agreement.

Under the terms of the merger agreement, Metabasis obligation to call, give notice of, convene and hold the special meeting of Metabasis stockholders will not be limited or otherwise affected by the commencement, disclosure, announcement or submission to Metabasis of an acquisition proposal or by any withdrawal or modification of the recommendation by Metabasis board of directors that Metabasis stockholders vote to adopt the merger agreement. Metabasis is also not permitted to submit to the vote of its stockholders any acquisition proposal unless the merger agreement has been terminated by Metabasis in accordance with its terms. See Termination of the Merger Agreement.

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The merger agreement provides that, if Ligand terminates the merger agreement because Metabasis' board of directors withdraws or modifies its recommendation that Metabasis stockholders vote to adopt the merger agreement, Metabasis will be required to pay Ligand the termination fee. See Termination Fee.

Conditions to the Merger

Conditions to the Obligations of Each Party

The merger agreement provides that the obligations of Ligand, Merger Sub and Metabasis to effect the merger and the other transactions contemplated by the merger agreement are subject to the satisfaction, at or before the effective time of the merger, of the following conditions, in addition to the additional conditions applicable to each of the parties set forth below:

the registration statement on Form S-4 shall have been declared effective by the SEC, and shall not be subject to a stop order or any proceeding initiated or threatened by the SEC for that purpose;

the merger agreement shall have been adopted by Metabasis' stockholders; and

no temporary, preliminary or permanent order or injunction shall have been issued by a court of competent jurisdiction and shall be continuing that prohibits the consummation of the merger, and no law, statute, code, ordinance, regulation, code, order, judgment, writ, injunction, decision, ruling or decree promulgated by any governmental entity that prevents or prohibits consummation of the merger shall have been enacted since the date of the merger agreement and shall remain in effect.

Additional Conditions to the Obligations of Ligand and Merger Sub

The merger agreement provides that the obligations of Ligand and Merger Sub to consummate and effect the merger and the other transactions contemplated by the merger agreement are subject to the satisfaction of the following conditions:

each of the representations and warranties of Metabasis set forth in the merger agreement (without giving effect to any material adverse effect or other materiality qualifications contained in such representations and warranties) shall be true and correct as of the effective time of the merger as though made on and as of the effective time (except that those representations and warranties which address matters only as of a particular date need only be true and correct as of such date), except for such inaccuracies, individually or in the aggregate (and subject to exceptions defined in the merger agreement), that would not reasonably be expected to have a material adverse effect on Metabasis;

the covenants of Metabasis contained in the merger agreement that are required to have been performed by Metabasis before the effective time of the merger shall have been performed in all material respects;

since the date of the merger agreement, there shall not have occurred and be continuing any event or development which, individually or in the aggregate (and subject to exceptions defined in the merger agreement), has had or would reasonably be expected to have a material adverse effect on Metabasis;

no more than 1,750,000 shares of Metabasis common stock shall have demanded or be eligible to demand appraisal pursuant to Section 262 of the Delaware General Corporation Law;

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Metabasis shall have delivered to Ligand the resignations of each director and officer of Metabasis and each Metabasis subsidiary, as such, each effective as of the effective time of the merger;

Metabasis shall have obtained consents or approvals from all parties in the absence of whose consent or approval the consummation of the merger and the transactions contemplated thereby would violate or constitute a default under any Metabasis contract, except for such violations or defaults as would not, individually or in the aggregate, reasonably be expected to have a material adverse effect, impair in any material respect the ability of Metabasis to perform its obligations hereunder or the ability of Ligand to enjoy the intended benefit of the merger and the transactions contemplated thereby, or prevent or

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materially delay consummation of the merger and the transactions contemplated thereby; and Metabasis shall have obtained, made or received all consents or approvals of, or filings, declarations or registrations with, any governmental entity necessary for the execution and delivery of the merger agreement and the CVR agreements by Metabasis and the consummation by Metabasis of the merger and the transactions contemplated thereby, other than (i) the filing with the SEC of the post-effective-time filings required under, and compliance with other applicable requirements of, the Exchange Act and the rules of the NASDAQ, (ii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the Delaware General Corporation Law, and (iii) such consents, approvals, filings, declarations or registrations that, if not obtained, made or given, would not, individually or in the aggregate, reasonably be expected to have a material adverse effect, impair in any material respect the ability of Metabasis to perform its obligations hereunder or the ability of Ligand to enjoy the intended benefit of the merger and the transactions contemplated thereby, or prevent or materially delay consummation of the merger and the transactions contemplated thereby; and

Ligand shall have received from Metabasis (i) a properly executed statement dated as of the closing date, that Metabasis is not, and has not been at any time during the applicable period, a United States real property holding corporation, as defined in Section 897(c)(2) of the Code, and (ii) proof reasonably satisfactory to Ligand that Metabasis has provided notice of such certification to the Internal Revenue Service.

Additional Conditions to the Obligations of Metabasis

The merger agreement provides that the obligations of Metabasis to consummate and effect the merger and the other transactions contemplated by the merger agreement are subject to the satisfaction of the following conditions:

each of the representations and warranties of Ligand and Merger Sub set forth in the merger agreement (without giving effect to any material adverse effect or other materiality qualifications contained in such representations and warranties) shall be true and correct as of the effective time of the merger as though made on and as of the effective time (except that those representations and warranties which address matters only as of a particular date need only be true and correct as of such date), except for such inaccuracies, individually or in the aggregate (and subject to exceptions defined in the merger agreement), that would not reasonably be expected to have a material adverse effect on Ligand;

the covenants of Ligand and Merger Sub contained in the merger agreement that are required to have been performed by Ligand and Merger Sub before the effective time of the merger shall have been performed in all material respects; and

since the date of the merger agreement, there shall not have occurred and be continuing any event or development which, individually or in the aggregate (and subject to exceptions defined in the merger agreement), has had or would reasonably be expected to have a material adverse effect on Ligand.

As used with respect to Metabasis in the merger agreement, material adverse effect means any fact, circumstance, event, change or occurrence that, individually or in the aggregate with all other facts, circumstances, events, changes or occurrences, has or would reasonably be expected to have a material adverse effect on the results of operations or financial condition of Metabasis and its subsidiaries, taken as a whole, other than changes, subject to certain exceptions, events, occurrences or effects arising out of, resulting from or attributable to:

changes in conditions in the United States or global economy or capital or financial markets generally, including changes in interest or exchange rates;

conditions (or changes therein) in any industry or industries in which Metabasis and its subsidiaries operate;

any change in law or GAAP or interpretation of any law or GAAP;

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the negotiation, execution, announcement or performance of the merger agreement or the consummation of the merger, including the impact thereof on relationships, contractual or otherwise, with customers, suppliers, distributors, partners, collaborators or employees;

acts of war, sabotage or terrorism, or any escalation or worsening of any such acts of war, sabotage or terrorism threatened or underway as of the date of the merger agreement;

storms, earthquakes or other natural disasters;

any action taken by Metabasis or any Metabasis subsidiary as contemplated or permitted by the merger agreement or with Ligand's consent;

the initiation of any litigation by any stockholder of Metabasis relating to the merger agreement or the merger;

any decline in the market price, or change in trading volume, of the capital stock of Metabasis or any failure of Metabasis to meet revenue or earnings projections, either published by Metabasis or any third party (provided that this exception shall not prevent or otherwise affect a determination that any changes, state of facts, circumstances, events or effects underlying such a change has resulted in, or contributed to, a material adverse effect on Metabasis);

any adverse changes, developments, circumstances, events or occurrences relating to Metabasis' ongoing research programs to the extent resulting from an action by Ligand or any of its affiliates;

the determination by, or the delay of a determination by, the FDA, or any panel or advisory body empowered or appointed thereby, with respect to the approval, non-approval or disapproval of any products similar to or competitive with Metabasis' product candidates;

the results of any clinical trial of one or more products or product candidates of any person or entity other than Metabasis; or

the entry or threatened entry into the market of a generic version of one or more product candidates of Metabasis.

As used with respect to Ligand in the merger agreement, "material adverse effect" means any fact, circumstance, event, change or occurrence that, individually or in the aggregate with all other facts, circumstances, events, changes or occurrences, has or would reasonably be expected to have a material adverse effect on the results of operations or financial condition of Ligand and its subsidiaries, taken as a whole, other than changes, subject to certain exceptions, events, occurrences or effects arising out of, resulting from or attributable to:

changes in conditions in the United States or global economy or capital or financial markets generally, including changes in interest or exchange rates;

conditions (or changes therein) in any industry or industries in which Ligand and its subsidiaries operate;

any change in law or GAAP or interpretation of any law or GAAP;

acts of war, sabotage or terrorism, or any escalation or worsening of any such acts of war, sabotage or terrorism threatened or underway as of the date of the merger agreement;

storms, earthquakes or other natural disasters;

the initiation of any litigation by any stockholder of Ligand relating to the merger agreement or the merger;

any decline in the market price, or change in trading volume, of the capital stock of Ligand or any failure of Ligand to meet revenue or earnings projections, either published by Ligand or any third party (provided that this exception shall not prevent or otherwise affect a determination that any changes,

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state of facts, circumstances, events or effects underlying such a change has resulted in, or contributed to, a material adverse effect on Ligand);

the negotiation, execution, announcement or performance of the merger agreement or the consummation of the transactions contemplated thereby, including the impact thereof on relationships, contractual or otherwise, with customers, suppliers, distributors, partners, collaborators or employees;

any action taken by Ligand or any of its subsidiaries as contemplated or permitted by the merger agreement or with Metabasis consent;

the determination by, or the delay of a determination by, the FDA, or any panel or advisory body empowered or appointed thereby, with respect to the approval, non-approval or disapproval of any products similar to or competitive with Ligand's product candidates;

the results of any clinical trial of one or more products or product candidates of any party other than Ligand; or

the entry or threatened entry into the market of a generic version of one or more product candidates of Ligand.

Termination of the Merger Agreement

The merger agreement may be terminated and the merger may be abandoned (before or after the obtaining of the Metabasis stockholder approval) by mutual written consent of Metabasis and Ligand. In addition, either Metabasis or Ligand may terminate the merger agreement if:

the Metabasis stockholder approval shall not have been obtained by reason of the failure to obtain the required vote at the special meeting or at any adjournment thereof;

the effective time of the merger shall not have occurred by February 15, 2010, or the outside date, provided that the right to so terminate the merger agreement shall not be available to any party where the failure of such party or any affiliate or representative of such party to fulfill any obligation under the merger agreement or any voting agreement has resulted in the failure of the effective time to have occurred on or before the outside date;

there shall be any final, permanent law, statute, code, ordinance, regulation, code, order, judgment, writ, injunction, decision, ruling or decree promulgated by any governmental entity that is in effect and that prevents or prohibits consummation of the merger; provided, however, that a party shall not be permitted to so terminate the merger agreement if the existence of the legal prohibition is attributable to the failure of such party to perform in any material respect any covenant in the merger agreement required to be performed by such party at or before the effective time of the merger, and provided, further, that the party seeking to terminate the agreement shall have used its reasonable best efforts to prevent such legal prohibition and to cause any such legal prohibition to be vacated or otherwise rendered of no effect as soon as possible and in any event by the outside date;

In addition, the merger agreement provides that Ligand may terminate the merger agreement:

if the Metabasis board of directors makes a change in its recommendation that Metabasis stockholders vote in favor of adoption of the merger agreement; or

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if: (i) the representations and warranties of Metabasis set forth in the merger agreement shall not be true and correct on and as of the date of such determination as if made on such date (other than those representations and warranties that address matters only as of a particular date, which shall be true and correct as of such date), except where the failure of any such representation or warranty to be true and correct (without giving effect to any material adverse effect on Metabasis or other materiality qualifications set forth therein) would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on Metabasis or impair in any material respect the ability of Metabasis to

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perform its obligations under the merger agreement or the ability of Ligand to enjoy in all material respects the intended benefit of the merger and transactions contemplated thereby or (ii) Metabasis shall have, in any material respect, breached or failed to perform or comply with any obligation, agreement or covenant required by the merger agreement to be performed or complied with by it; and such breach or failure is not cured, or is incapable of being cured, on or before the outside date.

In addition, the merger agreement provides that Metabasis may terminate the merger agreement:

if the Metabasis board of directors authorizes Metabasis, subject to complying with the terms of the merger agreement, to accept (or to enter into a written agreement for a transaction constituting) a superior proposal; provided that immediately before (or contemporaneous with) such termination of the merger agreement, Metabasis shall pay to Ligand the termination fee payable pursuant to the merger agreement; or

if: (i) the representations and warranties of Ligand or Merger Sub set forth in the merger agreement shall not be true and correct on and as of the date of such determination as if made on such date (other than those representations and warranties that address matters only as of a particular date, which shall be true and correct as of such date), except where the failure of any such representation or warranty to be true and correct (without giving effect to any material adverse effect on Ligand or other materiality qualifications set forth therein) would not, individually or in the aggregate, reasonably be expected to have a material adverse effect or impair in any material respect the ability of Ligand or Merger Sub to perform their obligations under the merger agreement; or (ii) Ligand or Merger Sub shall have, in any material respect, breached or failed to perform or comply with any obligation, agreement or covenant required by the merger agreement to be performed or complied with by them it; and such breach or failure is not cured, or is incapable of being cured, on or before the outside date.

If the merger agreement is terminated, then it will be of no further effect; provided however that the following shall survive such termination: (i) certain confidentiality obligations, (ii) liabilities relating to payment of the termination fee, if applicable, (iii) the requirement that each party bear its own expenses, and (iv) liabilities or damages incurred or suffered by a party as a result of fraud or intentional misconduct by the other party.

Termination Fee

Metabasis has agreed to pay a \$400,000 termination fee to Ligand if:

the Metabasis board of directors authorizes Metabasis to accept (or to enter into a written agreement for a transaction constituting) a superior proposal or changes its recommendation with respect to the merger; or

if Ligand terminates the merger agreement as a result of (i) Metabasis' representations and warranties not being true and correct, except where the failure of any such representation or warranty to be true and correct would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on Metabasis or impair in any material respect the ability of Metabasis to perform its obligations under the merger agreement or the ability of Ligand to enjoy in all material respects the intended benefit of the merger and the transactions contemplated thereby; or (ii) Metabasis' material breach or failure to perform or comply with any obligation, agreement or covenant required by the merger agreement.

Metabasis has also agreed to pay a \$250,000 termination fee to Ligand if:

(i) Ligand or Metabasis terminates the merger agreement as a result of failure to obtain the required vote at the special Metabasis stockholders meeting or at any adjournment thereof, or (ii) Ligand or Metabasis terminates the merger agreement as a result of the merger not being consummated by the February 15, 2010 outside date;

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neither Ligand nor Merger Sub shall have materially breached any of its representations, warranties or covenants contained in the merger agreement; and

at or before the time of any such termination of the merger agreement an acquisition proposal shall have been made (and such acquisition proposal shall not have been withdrawn before the time of the termination of the merger agreement) and within 12 months after the date of termination of the merger agreement, Metabasis or any Metabasis subsidiary consummates an acquisition transaction or enters into an agreement to consummate an acquisition transaction that is subsequently consummated.

Fees and Expenses

The merger agreement provides that, whether or not the merger is consummated, each party shall pay its own expenses incident to preparing for, entering into and carrying out the merger agreement and the transactions contemplated thereby. Nothing contained in the merger agreement shall be deemed to limit the right or ability of any party to the merger agreement to pay such expenses, as and when due and payable.

Amendment

The merger agreement may be amended by the parties thereto at any time before the effective time of merger provided that after the adoption of the merger agreement by Metabasis stockholders, no amendment shall be made which by law or in accordance with the rules of any relevant stock exchange requires further approval by the stockholders of Metabasis, without such further stockholder approval.

CVR Agreements

In connection with the closing of the merger, Ligand, Metabasis and a rights agent to be determined will enter into separate contingent value rights agreements relating to (i) Metabasis 2008 collaboration and license agreement with Roche for a partnered drug development program in hepatitis C, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex B* (the Roche CVR agreement), (ii) Metabasis program for the development of a thyroid receptor beta agonist for the treatment of hyperlipidemia, or TR Beta Program, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex C* (the TR Beta CVR agreement), (iii) Metabasis program intended to create a glucagon receptor antagonist drug for the treatment of diabetes, or Glucagon Program, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex D* (the Glucagon CVR agreement), and (iv) funding shortfall payment rights pursuant to the merger agreement, Metabasis common stock and commercial interests related to privately-held PeriCor Technologies, Inc., and Metabasis other existing development programs and technologies, including Metabasis program for the development of diacylglycerol acyltransferase-inhibitors for the treatment of obesity and other metabolic diseases, or DGAT-1 Program, Metabasis program for the development of fructose-1,6-bisphosphatase inhibitors for the treatment of diabetes, or FBPase Inhibitor Program, Metabasis program for the development of glucose kinase activators for the treatment of type 2 diabetes and other metabolic diseases, or GK Program, Metabasis program for the development of pradefovir for the treatment of patients with hepatitis B, or Pradefovir Program, Metabasis program intended to create a liver-specific drug targeting technology for chemically modifying the molecule to render it inactive until the modification is cleaved off by a liver-specific enzyme, or HepDirect Program, and Metabasis program intended to create a HepDirect prodrug of AraCMP for the treatment of hepatocellular carcinoma, or the 7133 Program, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex E* (the General CVR agreement). *Annex B*, *Annex C*, *Annex D* and *Annex E* are each incorporated by reference into this proxy statement/prospectus. The following summary describes the material provisions of the contingent value rights agreements. This summary may not contain all of the information about the contingent value rights agreements that is important to you. You are encouraged to read the forms of contingent value rights agreements carefully in their entirety because when entered into among Ligand, Metabasis, the Stockholders Representative and the rights agent, these documents will be the legal documents governing the contingent value rights to be issued to former

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Metabasis securityholders in connection with the merger. Although the definitive version of the contingent value rights agreements negotiated and entered into with the chosen rights agent is not expected to differ from the form of contingent value rights agreements included with this proxy statement/prospectus in any respect that would be material to holders of contingent value rights, there can be no assurance that any changes will not, in fact, be material to holders.

At the closing of the merger, Ligand, Metabasis, the Stockholders Representative and a rights agent will enter into the contingent value rights, or CVR, agreements, the forms of which are attached as *Annex B*, *Annex C*, *Annex D* and *Annex E* to this proxy statement/prospectus. The CVR agreements set forth the rights that former Metabasis securityholders will have with respect to each CVR to be held by them after the closing of the merger. The CVR agreements provide that:

under the Roche CVR agreement, subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Roche CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) 65% of any milestone payments received by Ligand or Metabasis after October 1, 2009 under the Roche Agreement; (ii) 68% of any royalty payments received by Ligand or Metabasis after October 1, 2009 under the Roche Agreement; (iii) 65% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis after October 1, 2009 in connection with a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement); and (iv) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund;

under the TR Beta CVR agreement, subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the TR Beta CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program (as defined in the TR Beta CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the seventh anniversary of the merger and before the eighth anniversary of the merger, or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund;

under the Glucagon CVR agreement, subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Glucagon CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program (as defined in the Glucagon CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale

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transactions, with respect to the Glucagon Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the seventh anniversary of the merger and before the eighth anniversary of the merger or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund; and

under the General CVR agreement, subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the General CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) the amount of any shortfall of Ligand's interim or total \$8 million guaranteed funding obligations under the merger agreement; (ii) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program (each as defined in the General CVR agreement), if Ligand has by the time of the transaction not made research and/or development investments of at least \$700,000 on such program or (b) 25% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program, if Ligand has by the time of the transaction made research and/or development investments of at least \$700,000 on such program; (iii) (a) 90% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program (as defined in the General CVR agreement) that occur after October 1, 2009 and within six months after the merger, (b) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the sixth month anniversary of the merger and before the two year anniversary of the merger or (c) 10% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the two year anniversary of the merger and before the ten year anniversary of the merger; (iv) 60% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with (a) any sale of certain shares of PeriCor Therapeutics, Inc. stock held by Metabasis, (b) any milestone payments or royalty payments payable pursuant to certain PeriCor Agreements (as defined in the General CVR agreement) or (c) any full or partial sale or transfer of any rights to receive such milestone payments or royalty payments or all or any portion of a drug candidate or technology from the drug development program licensed pursuant to certain PeriCor Agreements; (v) 100% of the cash received by Ligand upon a cash exercise of any of the Metabasis warrants outstanding as of the date of the merger; (vi) 50% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with any sale of Metabasis QM/MM Technology (as defined in the General CVR agreement); and (vii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

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Specifically, with regard to the shortfalls from guaranteed funding obligations, Ligand agreed to, before the first anniversary of the merger, spend at least \$350,000 on at least one of the drug research and/or development programs conducted before the merger by Metabasis, including the DGAT-1 Program, FBPase Inhibitor Program, GK Program HepDirect Program and Pradefovir Program (but not including the TR Beta Program, the Glucagon Program and the 7133 Program); provided, however, that if Ligand does not so spend at least \$350,000, the difference between \$350,000 and the amount spent as of such anniversary date on the one of those programs with the greatest spending will be distributed pursuant to the General CVR agreement, subject to the certain adjustments mentioned above, unless the Stockholders Representative, with the written consent of the holders of at least 20% of the General CVRs, consents to negate such requirement. Ligand also agreed to spend, before the 30th-month anniversary of the merger, an aggregate of at least \$7,000,000 (inclusive of the previously-mentioned \$350,000) on the Metabasis drug development programs (not limited to the five Programs specified in the previous sentence); provided, however, that if Ligand does not spend an aggregate of \$7,000,000, the difference between \$7,000,000 and the amount spent as of such 30th-month anniversary date will be distributed pursuant to the General CVR agreement, subject to the certain adjustments mentioned above, unless (i) the Stockholders Representative, with the written consent of the holders of at least 20% of the General CVRs, consents to negate such requirement, (ii) Ligand provides the Stockholders Representative with reasonable evidence that Ligand has entered into a partnering agreement with a third party to commercialize one of the Metabasis drug development programs and such agreement has a value of at least \$100,000,000 in upfront and milestone proceeds or (iii) Ligand provides the Stockholders Representative with reasonable evidence that Ligand has ceased funding the TR Beta Program and the Glucagon Program. Finally, Ligand also agreed to spend, before the 42nd-month anniversary of the merger, an aggregate of at least \$8,000,000 (inclusive of the previously-mentioned \$350,000 and \$7,000,000) on the Metabasis drug development programs (not limited to the four Programs specified in the next previous sentence), with the difference between \$8,000,000 and the amount spent as of such anniversary date to be distributed pursuant to the General CVR agreement, subject to the certain adjustments mentioned above, unless the Stockholders Representative, with the written consent of the holders of at least 20% of the General CVRs, consents to extend such 42-month period an extra six months.

For the above purposes, the following shall be deemed to have been spent by Ligand: (i) 100% of reasonable out-of-pocket expenses paid to third parties by Ligand or the surviving corporation for goods or services actually provided after the effective time of the merger, or which is an account payable of Ligand or the surviving corporation for goods or services actually provided after the effective time of the merger, in each case which relates directly to the research and development of such drug development programs (including, without limitation, equipment, supplies, outsource firms, patent attorneys, filing fees, etc.); (ii) \$350,000 per one year full time equivalent effort (1,875 hours per year of scientific work) of one scientist with either a B.Sc., M.S. or Ph.D. or equivalent degree, or FTE (plus a proportional amount per fractional FTE) working on or directly related to and in support of such programs; and (iii) any previous shortfall amount paid under the General CVR agreement. The \$350,000 per FTE figure was specifically negotiated, and is intended to cover allocations of overhead and benefits.

The holders of General CVRs can, as to certain actions, exercise rights which control all four types of CVRs, without any corresponding right in the holders of the other three types of CVRs. Before the delivery of any funding objection notice or notice of objection (as defined in the CVR agreements), other than a notice of objection directly pertaining to the Roche CVR agreement, the TR Beta CVR agreement or the Glucagon CVR agreement, or the filing of any other litigation or arbitration action or dispute process of any kind, the Stockholders Representative must first obtain the assent of holders of at least 20% of the then outstanding General CVRs. Also, if the Stockholders Representative dies, becomes unable to perform his responsibilities or resigns from such position, it is the holders of at least 34% of the then outstanding General CVRs who can select another representative reasonably acceptable to Ligand to fill such vacancy and such substituted representative shall be deemed to be the

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Stockholders Representative for all purposes of the merger agreement and the CVR agreements. And, it is the holders of 20% of the General CVRs who can request the early distribution, to all holders of CVRs pro rata, of any amounts remaining in the Stockholders Representative fund.

CVR Transfers

The CVRs may be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, but only in accordance with the provisions of the CVR agreements regarding procedures for transfer and in compliance with applicable United States federal and state securities laws. Ligand is not obligated to, and is not currently expected to, list the CVRs for trading on any securities exchange or quotation system.

Reduction of CVR Payments to Satisfy or Reimburse Contingent Liability Payments to Third Parties

Metabasis has contingent liabilities of up to \$1.5 million to its landlord ARE-SD Region No. 24, LLC. In July 2009, Metabasis terminated its lease for its corporate headquarters facility, and obtained a continued occupancy right through January 2, 2010; the consideration Metabasis gave in the transaction, as amended, included contingent cash payments to be made based upon gross revenues or proceeds actually received by Metabasis pursuant to licenses, collaboration arrangements or sales of Metabasis existing pipeline of therapeutic programs by September 30, 2013. ARE-SD would be entitled to receive contingent liability payments equal to 35% of such gross revenues or proceeds actually received by Metabasis, up to a total cash payment of \$1.5 million to ARE-SD.

Metabasis also has contingent liabilities of up to an aggregate of approximately \$1.15 million for contingent cash severance payments to the employees who were terminated in Metabasis May 2009 reduction in force. These contingent severance payments are triggered if Metabasis receives at least \$10 million in the aggregate from the sale or license of its intellectual property assets, including the receipt of milestone payments from Roche, before May 26, 2010. If Metabasis receives \$10 million before May 26, 2010 from the sale or license of its intellectual property assets then Metabasis has the obligation to pay an amount equal to 46 days salary at the respective employee s salary rate at the time of termination. If the sale or license of intellectual property results in proceeds of \$20 million before May 26, 2010, Metabasis has the obligation to make additional cash payments equal to a certain additional number of days salary (depending on the employee) at the employee s respective salary rate at the time of termination.

In general, events which would give rise to payments of the contingent liabilities described in the two preceding paragraphs, or the contingent liability payments, would also give rise to payments under one of the CVRs. Each CVR agreement provides that any contingent liability payments are to be satisfied first from amounts otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such payment event, but in some instances the full amount payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such payment event will be less than the contingent liability payments owing in respect of such payment event.

In the event of such a shortfall, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such payment event will be paid by Ligand directly to the beneficiaries of the contingent liability payments rather than to or for the benefit of the holders of the CVRs under the applicable CVR agreement, and the remainder of the contingent liability payments owing in respect of such payment event, or the excess, shall be paid by Ligand directly to the beneficiaries of the contingent liability payments. Then, then upon the next payment event under any of the CVR agreements (even if not the same CVR agreement in connection with which the excess was paid), Ligand shall withhold from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR agreement in respect of such (new) payment event, and shall keep for Ligand s own account to reimburse Ligand for having paid the excess, an amount equal to 100% of the excess (or, if less, 100% of the amount otherwise payable for the benefit of the

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holders of the CVRs under the applicable CVR agreement in respect of such (new) payment event). If Ligand is not thereby reimbursed for the entire excess, the shortfall shall be rolled forward to be satisfied in the same manner by withholding from any amount otherwise payable for the benefit of the holders of CVRs in respect of the next-to-occur payment event under any of the CVR agreements (even if not the same CVR agreement in connection with which the excess was paid or in connection with which the excess was partially satisfied).

As noted, it is possible that an excess that arises because of a CVR payment triggering event that triggers payments under only one type of CVRs may be satisfied from a next-to-occur payment(s) arising under another type or types of CVRs. In such a case, the CVRs which satisfy the excess will have no recourse against the CVRs which created the excess, even if other payment events and payments later occur under the CVRs which created the excess.

It is also true that because reductions to satisfy up to the entire amount of all contingent liability payments ever payable may be made entirely or disproportionately from early-occurring payment events arising under one or more particular CVR agreements, holders of that type of CVRs would be disadvantaged in comparison to the holders of other types of CVRs if the other types of CVRs have later-occurring payment events. Payments under such other types of CVRs would not have to be reduced to satisfy contingent liability payments, if all contingent liability payments ever payable have already been satisfied.

Ligand's Sole Discretion and Decision Making Authority

The CVR agreements provide:

in the case of the Roche CVR agreement, that Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, with respect to the Roche Agreement;

in the case of the TR Beta CVR agreement, that Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over any continued operation of, development of or investment in the TR Beta Program and over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar transfer agreement and/or agreement for the grant of an option to enter into any such transaction with respect to a drug candidate or technology or intellectual property from the TR Beta Program, and upon what terms and conditions;

in the case of the Glucagon CVR agreement, that Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over any continued operation of, development of or investment in the Glucagon Program and over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar transfer agreement and/or agreement for the grant of an option to enter into any such transaction with respect to a drug candidate or technology or intellectual property from the Glucagon Program, and upon what terms and conditions; and

in the case of the General CVR agreement, that Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over any continued operation of, development of or investment in any or all of the drug research and/or development programs conducted by Metabasis before the merger (including without limitation the DGAT-1 Program, FBPase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program) other than those programs explicitly covered by the other CVR agreements, and over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar transfer agreement and/or agreement for the grant of an option to enter into any such transaction with respect to a drug candidate or technology or intellectual property from any or all of such programs, the 7133 program or the QM/MM program, and upon what terms and conditions.

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Each CVR agreement specifies that, without limitation, in no event shall declining to effect a licensing agreement and/or sale agreement and/or similar transfer agreement and/or agreement for the grant of an option to enter into any such transaction on terms and conditions that create a commercially unreasonable risk of liability on the part of Ligand or the surviving corporation be deemed not to satisfy the in good faith and with commercial reasonableness standard. Moreover, in no event shall declining to effect a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement) or any other decision to retain existing rights under the Roche Agreement be deemed not to satisfy the in good faith and with commercial reasonableness standard under the Roche CVR agreement.

Achievement and Non-Achievement Certificates

The CVR agreements provide for Ligand to deliver achievement or non-achievement certificates (reflecting, respectively, satisfaction or non-satisfaction of the conditions to payment described above), as applicable, to the rights agent and Stockholders Representative. Upon receipt of a non-achievement certificate, the Stockholders Representative may, but only within 45 days of receipt of the non-achievement certificate and only if he has first obtained the assent of the holders of 20% of the outstanding CVRs under the applicable CVR agreement, deliver a notice specifying that the Stockholders Representative objects to the non-achievement certificate. Such notice shall include a statement of the reason upon which the Stockholders Representative has determined that the condition to payment was satisfied within the required time period.

If Ligand does not agree with any or all of the objections to the non-achievement certificate as stated in such notice, Ligand and the Stockholders Representative shall negotiate in good faith for a period of 30 days to resolve the dispute. After expiration of the 30-day period, any remaining objections will be settled by binding arbitration pursuant to the terms of the General CVR agreement.

If Ligand delivers to the rights agent an achievement certificate (or if the CVR payment amount is otherwise determined to be payable pursuant to the arbitration provisions in the CVR agreement), Ligand shall establish a CVR payment date that is the January 1st or July 1st which next follows the date of the achievement certificate (or the date of final determination pursuant to the arbitration provisions in the applicable CVR agreement). At least five business days before such CVR payment date, Ligand shall cause the CVR payment amount to be delivered to the rights agent, who will in turn, on such CVR payment date, distribute the CVR payment amount on a pro rata basis to the applicable CVR holders.

Rights of CVR Holders

The rights of a CVR holder are limited to those expressed in the applicable CVR agreement. The CVRs will not entitle the holders thereof, by virtue of their ownership of CVRs, to any of the rights of a Ligand stockholder. The CVR agreements will be governed by California law.

Stockholders Representative as Sole Actor

To the extent permitted by applicable law, in no event shall any holders of CVRs (as opposed to the Stockholders Representative) or any former stockholders of Metabasis (as opposed to the Stockholders Representative) have, after the effective time of the merger, any power or right to commence or join in any claim (presented formally to a judicial or quasi-judicial governmental entity), lawsuit, court action, suit, arbitration or other judicial or administrative proceeding based on or arising out of any CVR agreement or the merger agreement.

Amendment of CVR Agreements

Ligand may, with the written consent of the Stockholders Representative and the holders of at least 20% of the applicable series of CVRs, enter into one or more amendments to any CVR agreement for the purpose of

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adding, eliminating or changing any provision of the applicable CVR agreement, even if the addition, elimination or change is in any way adverse to the rights of CVR holders and/or to the interests of the Stockholders Representative. Any such amendment shall be fully valid even if such amendment is signed only by Ligand and the rights agent.

Ligand, at any time and from time to time, may without the consent of the Stockholders Representative, the CVR holders or the rights agent, enter into one or more amendments to the CVR agreements, for any of the following purposes:

to evidence the succession of another person to Ligand and the assumption by any successor of the covenants of Ligand in the applicable CVR agreement; or

to evidence the termination of the applicable CVR registrar and the succession of another person as a successor CVR registrar and the assumption by any successor of the obligations of the CVR registrar.

Ligand and the rights agent, at any time and from time to time, may without the consent of the Stockholders Representative or the CVR holders, enter into one or more amendments to the CVR agreements, for any of the following purposes:

to evidence the succession of another person as a successor rights agent and the assumption by any successor of the covenants and obligations of the rights agent;

to add to the covenants of Ligand any further covenants, restrictions, conditions or provisions as Ligand and the board of directors considered to be for the protection of CVR holders; provided that in each case, the provisions do not adversely affect the rights of CVR holders;

to cure any ambiguity, to correct or supplement any provision in the applicable CVR agreement that may be defective or inconsistent with any other provision, or to make any other provisions with respect to matters or questions arising under the applicable CVR agreement; provided that in each case, the provisions do not adversely affect the rights of CVR holders; or

to add, eliminate or change any provision in the applicable CVR agreement unless such addition, elimination or change is adverse to the rights of CVR holders and/or the interests of the Stockholders Representative.

Consolidation, Merger, Sale or Conveyance of Ligand

Under the terms of the CVR agreements, Ligand may not consolidate with or merge into any other person or convey, transfer or lease its properties and assets substantially as an entirety to any person, unless (i) such person expressly assumes payment of amounts on all the CVRs and the performance of every duty and covenant of the CVR agreements on the part of Ligand to be performed or observed and (ii) Ligand has delivered to the rights agent a certificate of one of its officers, stating that such consolidation, merger, conveyance, transfer or lease complies with the CVR agreements and that all conditions provided for relating to such transaction have been complied with. The CVR agreements expressly provide that such a consolidation, merger, or conveyance/transfer/sale substantially as an entirety shall not be deemed a sale transaction for any Program for the purpose of triggering or sizing a payment under any of the CVR agreements.

Termination of CVR Agreements

Each of the TR Beta CVR, Glucagon CVR and General CVR agreements generally terminate upon the first day after the later to occur of the tenth anniversary of the CVR agreement or the date that the payment of the last possible CVR payment under such CVR could occur (arising from events that occur before the tenth anniversary of the CVR agreement), and on which no further dispute is possible. The Roche CVR terminates upon the first day after the date that the payment of the last possible CVR payment under the Roche CVR could occur, and on which no further dispute is possible.

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Voting Agreements

As an inducement to Ligand and as a condition to Ligand's entering into the merger agreement, each of MPM Asset Management Investors 2000 B LLC, MPM BioVentures II, L.P., MPM BioVentures II-QP, L.P., MPM BioVentures GMBH&Co Parallel- Beteiligungs KG, InterWest Partners VII, L.P., InterWest Investors VII, L.P. and all the directors and officers of Metabasis as of October 26, 2009, or collectively the stockholder parties, entered into voting agreements with Ligand, whereby the stockholder parties agreed to vote all of the shares of Metabasis common stock beneficially owned by them in favor of adoption of the merger agreement and approval of the merger and against any acquisition proposal or superior proposal. The stockholder parties also granted Ligand an irrevocable proxy to vote such shares in accordance with the preceding sentence. The voting agreements limit the ability of the stockholder parties to sell or otherwise transfer the shares of Metabasis common stock beneficially owned by them. As of October 26, 2009, the stockholder parties owned an aggregate of approximately 28.9% of the outstanding shares of Metabasis common stock. The voting agreements will terminate upon (i) mutual agreement, (ii) the effective time of the merger, (iii) the termination of the merger agreement in accordance with its terms or (iv) any amendment, modification or change (or waiver, which waiver is made at the request of, or with the consent of, Ligand) to the terms of the merger agreement or one or more of the CVR agreements that is not consented to by a stockholder party and is or results in (x) any change (adverse-to-the-stockholder-party) to the economic terms of the CVRs and the forms of CVR agreements, or (y) any change to the merger agreement provisions governing the economic terms of any potential cash payment that may be paid to Metabasis' stockholders, or (z) any change in the form of consideration payable pursuant to the merger agreement or the CVR agreements.

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METABASIS BUSINESS

Overview

Metabasis is a biopharmaceutical company that has developed a pipeline of novel drugs for metabolic diseases using Metabasis proprietary technology and its knowledge of processes and pathways within the liver that are useful for liver-selective drug targeting and treatment of metabolic diseases. Metabasis product pipeline includes product candidates and advanced discovery programs for the treatment of metabolic and liver diseases such as diabetes, hyperlipidemia, hepatitis and primary liver cancer.

Metabasis currently has four product candidates at the clinical stage of development. These product candidates include Metabasis metabolic disease proprietary product candidates, MB07811 and MB07803, which have been developed as potential treatments for hyperlipidemia, and type 2 diabetes, respectively, and its liver disease proprietary product candidates, pradefovir and MB07133, which have been developed as potential treatments for hepatitis B and primary liver cancer, respectively. In addition, Metabasis has compounds generated from various advanced research programs, such as its glucagon antagonist program. At this time, Metabasis does not intend to independently develop any of the assets within its product pipeline.

Metabolic Disease Product Candidates

Metabasis metabolic disease-related clinical-stage product candidates are as follows:

MB07811, a Phase 2 product candidate for treating hyperlipidemia. MB07811 uses Metabasis HepDirect prodrug technology and other structural characteristics to target a TR Beta agonist to the liver for the treatment of hyperlipidemia. Metabasis completed a rising multiple-dose Phase 1 clinical trial of MB07811 in 2008.

MB07803, a Phase 2 product candidate for treating type 2 diabetes. MB07803 is a second-generation fructose-1,6-bisphosphatase, or FBPase, inhibitor Metabasis discovered for treating type 2 diabetes. Metabasis has completed five Phase 1 clinical trials in healthy volunteers with MB07803 and a four-week randomized initial proof-of-concept Phase 2 clinical trial. Metabasis completed a 14-day, multi-dose safety and pharmacokinetic trial of MB07803 in patients with type 2 diabetes.

Metabolic Disease Advanced Discovery Programs

Metabasis metabolic disease-related advanced discovery programs are as follows:

AMPK, a metabolic disease program, in collaboration with Merck, that is focused on developing drug candidates that activate AMPK for treating type 2 diabetes and potentially other metabolic diseases.

Glucagon Antagonist, a program focused on identifying potent, orally bioavailable glucagon antagonists for treating type 2 diabetes.

TR Beta agonist, a second-generation program to identify drug candidates for treating hyperlipidemia.

Liver Disease Product Candidates and Other Programs

Metabasis liver disease-related product candidates and advanced discovery programs are as follows:

Pradefovir, a Phase 3 product candidate for treating chronic hepatitis B. Pradefovir is a HepDirect prodrug designed to deliver high concentrations of a potent antiviral nucleotide analog to the liver for the treatment of chronic hepatitis B. Metabasis has completed eleven Phase 1 and Phase 2 clinical trials of pradefovir, including a 48-week Phase 2 clinical trial.

MB07133, a Phase 2 product candidate for treating primary liver cancer. MB07133 is a HepDirect prodrug of the intermediate form of a known oncolytic, which is designed to deliver high concentration

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of the active form of the drug to the liver tumor. Metabasis has completed a repeat cycle Phase 1/2 clinical trial of MB07133.

Metabasis liver disease-related programs also include an agreement with Roche to apply its HepDirect technology to certain compounds for treating hepatitis C infection.

HepDirect Technology

Metabasis HepDirect technology is a proprietary technology used to target drugs to the liver. Metabasis has used this technology, knowledge and expertise to discover product candidates such as pradeфовir, MB07133 and MB07811.

Metabasis Disease Product Candidates

Metabasis metabolic disease product candidates focus on treating diseases such as type 2 diabetes and hyperlipidemia. These diseases are major healthcare problems worldwide, but are especially prevalent in the U.S. and Europe. Metabasis believes that these metabolic diseases can be treated by targeting metabolic pathways in the liver, such as the pathways responsible for producing and/or metabolizing glucose, cholesterol and fat molecules. Many drugs are currently available for treating metabolic diseases either alone or in combination with other drugs. However, while effective drug therapies exist for some patients, most are inadequately treated or controlled. Over 60% of patients treated for type 2 diabetes remain above the targeted levels for glucose set by the American Diabetes Association. In addition, over 60% of patients with coronary heart disease, which is associated with hyperlipidemia, remain above the targeted levels for cholesterol set by the National Cholesterol Education Program. As a result, Metabasis believes more effective drugs are needed to treat these chronic diseases.

Hyperlipidemia

Hyperlipidemia is a disease characterized by an elevation of lipids, such as cholesterol or triglycerides, in the bloodstream. Elevation of cholesterol and/or triglycerides in the bloodstream can accelerate a process called atherosclerosis, or hardening of the arteries, through the formation of plaque deposits on the artery walls. As more plaque builds up, the arteries can narrow and stiffen. Eventually, enough plaque may build up to reduce blood flow through the arteries leading to a greater risk of cardiovascular disease and heart attack or stroke. In addition, some plaque is unstable and can rupture and expose prothrombogenic (clotting) particles to the blood leading to reduced blood flow and acute cardiovascular events such as heart attacks and stroke. Cardiovascular disease is the leading cause of death worldwide, and in the U.S. alone claims more lives than cancer, chronic respiratory diseases, accidents and diabetes combined.

The number of patients diagnosed with hyperlipidemia is expected to increase from 301 million worldwide in 2006 to 330 million in 2015. In the U.S., the number of patients with hyperlipidemia is expected to increase from 111 million in 2006 to 124 million in 2015.

Current Treatments

While many drug classes are currently available for treating hyperlipidemia either alone or in combination with other drugs, many patients are not achieving optimal cholesterol lowering and are not meeting their cholesterol lowering targets with current therapies.

Major classes of hyperlipidemia drugs include, but are not limited to:

statins, which reduce serum cholesterol levels by inhibiting a key enzyme involved in the biosynthesis of cholesterol,

fibrates, which reduce the amount of cholesterol and triglycerides (fatty substances) in blood,

nicotinic acid derivatives, which lower cholesterol, triglycerides and low density lipoproteins and increase high density lipoproteins,

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cholesterol absorption inhibitors, or CAIs, which inhibit the absorption of dietary and biliary cholesterol,

bile acid sequestrants, which bind with cholesterol-containing bile acids in the intestines and remove them in bowel movements by excretion via the feces, and

statin combination therapies, which combine statins with members of the above-mentioned classes.

Markets

Combined sales of products used to treat hyperlipidemia in the seven major pharmaceutical markets were \$27 billion in 2007, with the U.S. accounting for \$17.1 billion of that total. By 2016 combined sales in the seven major pharmaceutical markets are expected to decrease to \$23 billion and sales in the U.S. are expected to decrease to \$15 billion. Although total revenues driven by this market are decreasing, primarily driven by the impact of generic products, the overall need for therapies to treat hyperlipidemia is increasing.

Patients with mixed dyslipidemia (elevated LDL and elevated triglyceride levels) account for approximately 100 million patients in the seven major pharmaceutical markets, with the U.S. consisting of approximately 30% of this total. Approximately 45% are diagnosed and, of these patients, about 50% are treated for the disease. Hence, in the U.S. alone there are 25 million patients being treated for hyperlipidemia. Of this population, approximately 90%, or 22.5 million, of hyperlipidemia patients suffer from some form of increased low-density lipoprotein, or LDL. The target patient population for MB07811 includes patients that are intolerant to statins or that do not meet target LDL-lowering levels with current therapies. Five percent of patients are intolerant to statins, whereas 60% of patients with dyslipidemia do not meet target LDL-lowering levels.

MB07811: A liver-targeted thyroid hormone receptor agonist for treating hyperlipidemia

MB07811 is the result of Metabasis' efforts to find a TR Beta agonist whose action is limited to the liver and thereby able to affect the levels of lipids, such as cholesterol, and triglycerides and lipoproteins, such as LDL, apolipoprotein B, or apoB, and Lp(a), that are associated with increased cardiovascular risk. MB07811 uses Metabasis' HepDirect prodrug technology and other structural characteristics to target a TR Beta agonist to the liver. Thyroid hormone receptor agonists are known to reduce lipids in animal models, but typically at doses similar to those associated with potential safety concerns, including cardiac and other non-hepatic toxicities. MB07811 is a HepDirect prodrug of a novel TR Beta receptor agonist internally discovered by Metabasis that is designed to deliver the agonist to the site where lipids are produced and metabolized, i.e. the liver, while reducing the exposure of the agonist to other tissues. Metabasis believes that liver-targeting may avoid the safety concerns previously seen with non-liver targeted TR Beta agonists and thus unlock the therapeutic potential of this approach. In addition, MB07811, if approved, could be one of the first in an entirely new class of anti-hyperlipidemic agents which may help patients better reach targeted lipid levels either as first line therapy or in combination with statins.

Product Position

Although statins are first-line therapy for lowering high cholesterol levels, there are a number of treatment goals that may not be achieved by statins. These include patients who do not get adequate cholesterol lowering and need other therapies added to their treatment regimen either because they cannot tolerate higher doses of statins or high doses remain suboptimal in achieving cholesterol treatment targets, patients with a combination of high cholesterol and high triglyceride levels in which statins fail to adequately lower triglycerides, patients who remain at risk for cardiovascular events based on elevation of an emerging risk factor, Lp(a), and patients who cannot tolerate statins. Clinical and preclinical data suggest that MB07811 could be an effective approach for lowering cholesterol with the added benefit of reducing both serum and liver triglycerides as well as Lp(a). Importantly, MB07811 appears to have an additive effect in reducing cholesterol when used with statins based on preclinical studies. Thus, if MB07811 is ultimately approved, it may find broad acceptance among physicians as an add-on to statin therapy. In addition, while statins are generally considered to be first line agents for the

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majority of patients with hyperlipidemia, approximately 5%, or approximately 1.25 million, of patients with hyperlipidemia in the U.S. cannot use statins. For these statin-intolerant patients, MB07811 may be considered as an alternative therapy.

Metabasis believes that because of the limitations of currently marketed drugs, the hyperlipidemia market is receptive to new drugs, and new therapeutic approaches have the potential to experience rapid clinical acceptance. For example, the results from the February 2000 Lipid Treatment Assessment Project, or L-TAP, a large, multi-center study, showed that of the 4,888 patients with evaluable data, only 38% achieved their cholesterol target goals as defined by National Cholesterol Education Program guidelines on lipid-lowering drugs. One reason patients with hyperlipidemia fail to reach their cholesterol lowering goals may be inadequate titration, or gradual escalation, of the dose of statins that they are prescribed due to the increased potential of adverse events at higher doses and because doubling of the statin dose only provides a small incremental (6%) reduction in cholesterol. For patients with high cholesterol who do not respond well to statins, their options are limited to changing to another statin and/or using a statin in combination therapy with a non-statin, lipid-lowering agent.

Clinical Trials

MB07811 has successfully completed a rising single-dose Phase 1 clinical trial and a rising multiple-dose Phase 1 clinical trial. MB07811 was well-tolerated in both clinical trials. In addition, although subjects in the Phase 1 trial had only modest elevations in LDL cholesterol, effective doses of MB07811 were associated with substantial decreases with each dose in LDL (15 - 41% difference from placebo), triglycerides (> 30% difference from placebo), apolipoprotein B (9 - 40% difference from placebo), and Lp(a) (28 - 56% difference from placebo). No apparent cardiac effects were observed, including no differences in heart rate, heart rhythm or blood pressure between subjects treated with MB07811 and placebo. Mild increases in liver enzymes and dose related shifts in thyroid hormone levels were observed at the higher doses of MB07811. These changes in liver enzymes and thyroid hormone levels began to reverse during the one-week post-study observation period.

Diabetes

There are two forms of diabetes: type 1 (insulin-dependent; juvenile onset diabetes) and type 2 (non-insulin dependent; adult onset diabetes). Approximately 90% of diabetes patients have type 2 diabetes. Elevated blood glucose levels in patients with type 2 diabetes are the result of a decrease in the sensitivity of the body's tissues, such as muscle, liver and fat, to insulin action, increased glucose production and a relative underproduction of the hormone insulin by the pancreas. Increased glucose production is caused by increased synthesis of glucose by the gluconeogenesis pathway in the liver. Over time, the chronically elevated blood glucose levels observed in patients with type 2 diabetes can lead to many long-term complications such as coronary heart disease, stroke, blindness, peripheral vascular disease, kidney disease and nerve damage. Diabetes is a leading cause of death in the U.S. Type 2 diabetes afflicts over 220 million people worldwide and over 21 million people in the U.S., and this number is projected to increase at an annual rate of 2.5% over the next 10 years.

Current Treatments

The United Kingdom Prospective Diabetes Study, a landmark 20-year clinical study completed in 1996, demonstrated that stringent control of blood glucose levels reduces the risk of the serious complications associated with type 2 diabetes. As a result of this study, the American Diabetes Association now recommends that levels of hemoglobin A1c, or HbA1c, be maintained under 7% in patients with type 2 diabetes. However, other than insulin, at the present time no single marketed drug is capable of lowering HbA1c into the targeted range for a sustained period of time in the majority of patients with type 2 diabetes.

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Drugs from each of the major classes of diabetes drugs exhibit side effects and tolerability issues, as well as decreased efficacy over time in many patients. These drug classes include:

insulin secretion enhancers (e.g. sulfonylureas), which lower glucose levels by inducing insulin secretion from the pancreas. This drug class has been associated with a significant risk of hypoglycemia,

insulin sensitizers (e.g. thiazolidinediones), which lower glucose levels by enhancing insulin sensitivity. This drug class has been associated with fluid retention, weight gain and a risk of heart attacks and angina,

hepatic glucose output inhibitors, which lower glucose levels by inhibiting liver glucose production. The only drug in this class is metformin, which, based on a study reported in the medical journal *Diabetes*, inhibits glucose production by the liver by only approximately 20-25%, even when administered at the maximum allowed dose. Metformin therapy is associated with an increased risk of lactic acidosis in certain patient populations, including patients with kidney dysfunction. In addition, metformin therapy commonly leads to transient gastrointestinal disturbances such as nausea, diarrhea and vomiting, which may compromise patient compliance,

incretin mimetics, which lower glucose by exhibiting many of the same glucose regulating actions of naturally occurring glucagon-like peptide-1, or GLP-1. GLP-1 is a peptide that facilitates the response of the pancreas and liver to fluctuations in glucose levels by its action on pancreatic beta and alpha cells, and

Dipeptidyl peptidase-4, or DPP-4, inhibitors, which inhibit an enzyme in the bloodstream that cleaves and inactivates GLP-1. Inhibition of DPP-4 thus increases the half-life of endogenous GLP-1 by preventing cleavage and inactivation of GLP-1. The overall effect of drugs in this class is to enhance glucose-dependent insulin secretion and suppress inappropriate glucagon secretion.

Certain widely used insulin secretion enhancers and insulin sensitizers, but not metformin, are also associated with increased weight gain. Since weight gain is known to impact glucose control, physicians often prescribe metformin as a first line therapy to non-elderly obese patients who, according to a study published in the medical journal *Diabetes & Endocrinology*, comprise more than 90% of newly diagnosed patients with type 2 diabetes. In the United Kingdom Prospective Diabetes Study, obese patients treated with maximum doses of metformin or an insulin secretion enhancer ultimately showed a steady rise in HbA1c levels above the targeted range at three years. Progressively fewer patients were able to maintain baseline HbA1c levels at six years and nine years, respectively. Thus, there remain certain patient populations in whom high blood sugar is not adequately managed with currently available therapies.

One of the major underserved diabetic populations is patients who are ineligible for metformin therapy. These include patients not allowed to use metformin (particularly patients with impaired renal (kidney) function), patients intolerant to metformin (e.g. gastrointestinal side effects) and patients with severe diabetes who no longer respond to metformin, a problem that is prevalent with long-term use. The common alternative therapies to metformin, sulfonylureas and thiazolidinediones, have side effect profiles that are problematic, particularly in patients with renal impairment and severe diabetes. Moreover, the glucose-lowering effects of these medications also tend to wane over time, requiring the addition of other antidiabetic medications including insulin to achieve target HbA1c. Metabasis believes that because of these limitations in currently marketed drugs, the diabetes market is receptive to new drugs to address these unmet medical needs.

Markets

Combined sales of oral products used to treat type 2 diabetes in the seven major pharmaceutical markets, consisting of the U.S., Japan, United Kingdom, Germany, France, Italy and Spain, were \$18 billion in 2007, with the U.S. accounting for \$11.9 billion of that total. By 2016, combined sales of oral products used to treat type 2 diabetes, in the seven major pharmaceutical markets, are expected to increase to \$25 billion, and sales in the U.S. are expected to increase to \$16 billion.

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MB07803 is targeted for use in the patient populations that are contraindicated or intolerant to metformin. In the U.S. alone, there are 1.4 million patients that are contraindicated to metformin (of which 1.1 million are renally impaired) and another 1.3 million patients that are intolerant and not on metformin. These two segments represent 17.1% of all diagnosed and treated patients. Additionally, MB07803 may be targeted for use by those diabetic patients that eventually fail all oral therapies prior to being prescribed insulin. At any given time, approximately 30% of type 2 diabetes patients are on insulin. In the U.S. this patient population represents over 5 million of the total treated population.

MB07803: A second generation fructose-1, 6-bisphosphatase inhibitor for treating type 2 diabetes

MB07803 is an oral product candidate for treating type 2 diabetes that Metabasis discovered and is designed to inhibit FBPFase. MB07803 is its second generation FBPFase inhibitor to CS-917, its first product candidate designed for treating type 2 diabetes via this mechanism. CS-917 had demonstrated promising results in early clinical studies in patients with moderate to severe elevations in fasting plasma glucose. These studies were followed by a 12-week Phase 2 trial evaluating CS-917 predominately in a population of patients not previously treated with medication and exhibiting mild type 2 diabetes. While CS-917 failed to significantly lower the placebo-adjusted level of HbA1c at the doses tested, a subsequent analysis of the data from this trial showed that CS-917 significantly lowered both HbA1c and fasting plasma glucose in certain patient sub-populations over the three-month dosing period evaluated. These results, along with previous Phase 2 clinical trials, confirmed that FBPFase inhibition is a promising mechanism for significantly improving glycemic control. The results from the CS-917 program were utilized to guide Metabasis' initial development plan for MB07803. Metabasis designed MB07803 with certain improvements including improved oral bioavailability and metabolic stability, which Metabasis believes could lead to better tolerability and improved efficacy. Recent pre-clinical studies indicate that a metabolite present in humans at high levels following treatment with CS-917 appears to negatively impact mitochondrial function. MB07803 was designed to avoid this metabolism, and data from human studies on MB07803 show that the corresponding metabolite is formed at very low levels, such that effects on mitochondrial function are not expected. This difference may translate to an improved safety profile for MB07803.

Product Position

Metabasis' first generation FBPFase inhibitor, CS-917, appeared to interact with metformin in a limited number of patients during a drug-drug interaction study, leading to serious adverse events in those patients. It is possible but not certain that MB07803 could also interact with metformin. Thus, initial clinical development of MB07803 should focus on diabetic populations that are underserved, the largest of which are patients ineligible for metformin therapy. Since MB07803 may lower glucose comparable to metformin, MB07803 could, if approved by regulatory authorities, initially be the drug of choice, alone or in combination with other oral therapies, for such patients.

Clinical Trials

Metabasis has completed five Phase 1 clinical trials of MB07803 in healthy volunteers, the most advanced of which was a 14-day, rising multiple dose clinical trial. The results from these completed clinical trials indicated that MB07803 was safe and well tolerated and supported the advancement of MB07803 into Phase 2 clinical trials. Metabasis has completed a Phase 2, 28-day initial proof-of-concept clinical trial for MB07803. This clinical trial was a randomized, double-blind, placebo-controlled trial in 105 patients with type 2 diabetes with moderately to severely elevated fasting plasma glucose, or FPG (average FPG of 187 mg/dL). Patients received either placebo or MB07803 at an oral dose of 10, 50, 100 or 200 mg once daily. Results indicate that the decrease in FPG by day 28 in patients treated with 200 mg was statistically and clinically significant (-28.9 mg/dL difference from placebo). In the subgroup of patients with FPG over 180 mg/dL treated with 200 mg, the decrease in FPG was also statistically and clinically significant (-49.7 mg/dL difference from placebo). MB07803 was safe and well tolerated with 94% of the patients completing the study and no patient withdrawals due to

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drug-related adverse events, or AEs. The frequency and nature of the AEs were similar to the AEs seen in the placebo group. There were two serious adverse events in the treatment group that were not drug-related. There were no cases of lactic acidosis, no significant gastrointestinal side effects and no drug-related hypoglycemia (low blood sugar).

The results of this Phase 2 clinical trial support the potential of MB07803 as an important new approach for treating patients with type 2 diabetes. Based on the favorable safety profile observed in the Phase 2 trial, another clinical trial was conducted to investigate whether administration of a newly developed MB07803 tablet formulation twice-daily would increase drug concentrations and whether higher drug concentrations would be safe and well-tolerated and result in better glucose lowering compared to placebo. This trial was a 14-day, ascending, multiple dose clinical trial in 42 poorly controlled type 2 diabetes patients (average FPG 221 mg/dL) in which 50, 200 and 400 mg tablets compared to matching placebo administered twice daily (every 12 hours) were evaluated. Results indicated that 200 mg and 400 mg doses taken twice a day resulted in higher drug concentrations than achieved in previous Phase 1 trials. The efficacy endpoint in the trial was the change from baseline at Day 14 in the glucose lowering response (determined by the area-under-the-curve, i.e. AUC) as measured after administration of the morning dose and during the last 6 hours of a prolonged 18 hour fast. The results showed that the 6-hour AUC was reduced from -93 (mg.hr/dL) for patients treated with placebo to -236 (p=0.17 vs. placebo), -442 (p=0.002 vs. placebo), and -532 (p=0.0002 vs. placebo) mg.hr/dL for patients treated with 50 mg, 200 mg and 400 mg twice daily, respectively. The top two doses also achieved statistical significance in the more clinically-relevant endpoint of a single point measure of FPG (-72 and -69 mg/dL change from baseline at the 200 and 400 mg twice daily dose compared to -14 mg/dL in placebo). In addition, all doses significantly reduced day long glycemia (24-hour glucose AUC). Dose-limiting vomiting was observed at the highest dose. In contrast, no patients in the 200 mg Q12h group experienced vomiting. Four of the 12 patients in this group experienced at least one episode of mild nausea, but none discontinued due to nausea. No patient in the 50 mg dose cohort experienced nausea or vomiting. One patient had glucose levels less than 60 mg/dL and exhibited symptoms consistent with hypoglycemia. This patient also had 3 nonconsecutive, asymptomatic elevations of lactate when glucose levels were less than 60 mg/dL. Other patients showed fasting glucose levels lower than 60 mg/dL, predominantly during the latter stages of the 18-hour fasting period, and were asymptomatic. No patient in the trial experienced lactic acidosis.

Metabolic Disease Advanced Discovery Programs

Metabasis metabolic disease advanced discovery programs are:

A metabolic disease program focused on developing an AMPK activator for treating type 2 diabetes and potentially other metabolic diseases.

AMPK plays an important role in regulating carbohydrate and fat metabolism. Activation of AMPK switches cellular metabolism from an energy consuming state to an energy-sparing one. Accordingly, diseases manifested through overproduction of biochemical end products by energy-consuming pathways (e.g. glucose, cholesterol, fatty acids and triglycerides) are potential disease targets for AMPK activators.

A metabolic disease program focused on developing a glucagon receptor antagonist for treating type 2 diabetes.

Type 2 diabetes has long been considered a hormonal disorder with insulin deficiency and/or insensitivity and a relative glucagon excess. Glucagon opposes the actions of insulin leading to an inappropriate increase in glucose production by the liver and other metabolic disturbances. Metabasis has an advanced discovery program that is focused on identifying chemically novel, potent, orally bioavailable glucagon antagonists for treating type 2 diabetes. Metabasis most advanced compound has shown significant and consistent lowering of blood glucose when dosed orally in numerous diabetic animal models.

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A second generation TR Beta agonist program to identify drug candidates for treating hyperlipidemia.

Metabasis has an advanced discovery program to identify second-generation TR Beta agonists for treating hyperlipidemia may lower cholesterol and triglycerides by the same mechanism as MB07811 but with potential improvements.

Liver Disease Product Candidates and Other Programs

Liver diseases such as hepatitis B, hepatitis C and primary liver cancer represent some of the most widespread and serious diseases in the world. Liver diseases are often poorly treated with current drug therapies which can be associated with poor tolerability and/or inadequate efficacy. The use of existing drugs for treating liver diseases is further limited in some cases by dose-limiting toxicities, which may occur when high levels of the drug accumulate in tissues outside the liver.

Hepatitis B

Hepatitis B is a viral disease that causes inflammation of the liver. Hepatitis B is transmitted by contact with the blood or other body fluids of an infected person. Hepatitis B infection is often difficult to diagnose because, depending upon the severity of the infection, patients may either be asymptomatic or experience only general flu-like symptoms such as fatigue, nausea or vomiting. Without appropriate treatment, continued inflammation of the liver leads to progressive scarring, or fibrosis, and eventually may lead to liver cancer or liver failure, resulting in death.

Hepatitis B is the most common serious liver infection in the world. Over 2 billion people worldwide, or approximately one-third of the world's population, have been infected at some time with hepatitis B, and approximately 400 million of those people are chronic carriers of the virus. Approximately 1.2 million deaths per year worldwide are hepatitis B-related. The Centers for Disease Control and Prevention reports that, in the U.S., over 1.2 million people are chronically infected with hepatitis B and nearly 80,000 new infections occur every year.

Current Treatments

In the U.S., there are seven approved treatments for chronic hepatitis B that are either interferon or nucleoside analogue based therapies. All of these therapies have limitations in treating patients with hepatitis B. For example, the interferons are generally poorly tolerated. Other antivirals such as the nucleoside analogue are limited by high viral resistance rates. Adefovir dipivoxil, a nucleotide analogue, decreases virus levels, as measured by hepatitis B DNA in the blood serum, but reductions are not sufficient to cure the infection in the majority of patients. In 2003, the *New England Journal of Medicine* reported that a three-fold higher dose of adefovir dipivoxil led to a more than ten-fold greater reduction in hepatitis B DNA in the blood serum and consistent trends toward improvement in all measures of liver injury. However, this higher dose caused elevation in markers of kidney toxicity that prevented further development at that dose. As a result, Metabasis believes that the approved dose of adefovir dipivoxil (10 mg) may be suboptimal for reducing virus levels in patients with hepatitis B. In addition, although adefovir dipivoxil appears to show a low rate of virus resistance for the viral load reduction, the inability of adefovir dipivoxil to maximally suppress the virus at the marketed dose in the majority of patients increases the incidence of viral resistance in these patients.

Markets

In the seven major pharmaceutical markets combined, sales of oral hepatitis B anti-viral products were \$661 million in 2007, with the U.S. accounting for \$370 million of that total. By 2016, combined sales in the seven major pharmaceutical markets are expected to increase to \$1.3 billion and sales in the U.S. are expected to increase to \$488 million. In addition to the seven major pharmaceutical markets, considerable potential exists in

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the growing Chinese pharmaceutical market, as there are more patients with hepatitis B in China than all other markets combined. Pradefovir, if approved by regulatory authorities, may also be targeted as a second line therapy in patients for whom treatment with other approved agents has failed. Therefore, Metabasis believes that there is a considerable worldwide market opportunity for pradefovir.

There is also an opportunity for substantial additional growth from potential sales of anti-viral drugs for hepatitis B in emerging markets including Eastern Europe and Asia. These regions have some of the highest rates of chronic hepatitis B infection in the world. There are currently over 300 million people with chronic hepatitis B infection in these emerging markets, representing greater than 75% of the total chronic infections worldwide.

Pradefovir: A HepDirect prodrug of PMEAs for treating hepatitis B

Pradefovir is an oral product candidate for treating hepatitis B, which is, like adefovir dipivoxil, a prodrug of 9-(2-phosphonylmethoxyethyl) adenine, or PMEAs. Pradefovir is a HepDirect prodrug designed to deliver high concentrations of PMEAs to the liver. Targeting PMEAs production to the liver could significantly reduce the dose-related kidney toxicities reported for adefovir dipivoxil and thereby improve anti-viral activity. In preclinical studies, pradefovir increased delivery of PMEAs to the liver while significantly decreasing levels of PMEAs in the bloodstream or kidney. In a 48-week Phase 2 clinical trial, pradefovir reduced hepatitis B virus levels by ~ 1.5 log copies/mL compared to adefovir dipivoxil and improved efficacy with reduced PMEAs levels in blood. In this clinical trial, pradefovir was also safe and well tolerated with no treatment-related trends in significant adverse events including evidence for adverse effects on the kidney and on the liver.

In October 2001, Metabasis entered into a development and license agreement with Valeant Pharmaceuticals North America, or Valeant, for the development and commercialization of pradefovir. In January 2007, Valeant, with Metabasis consent, assigned its rights, interests and obligations under the development and license agreement to Schering Corporation, or Schering, and further granted Schering a license to its intellectual property related to pradefovir. Concurrently, Metabasis and Schering entered into an amended and restated development and license agreement for the continued future development and commercialization of pradefovir. Under the amended and restated development and license agreement and pursuant to Valeant's assignment, Schering was granted exclusive worldwide rights to develop and commercialize pradefovir during the term of the agreement. In September 2007, Metabasis entered into an agreement with Schering and Valeant to terminate Metabasis agreements for the development and commercialization of pradefovir. In connection with this agreement, all rights to pradefovir were transferred back to Metabasis, subject to certain milestone and royalty payments due to Valeant should this product candidate be subsequently developed. These agreements were terminated as a result of numerous factors, including the results from the 24-month oral carcinogenicity studies of pradefovir in rats and mice.

In September 2008, we, Valeant and Schering entered into an agreement to amend certain terms of the assignment and assumption agreement and the termination agreement, each entered into by Valeant, Schering and us. The amendments to the assignment and assumption agreement provide for a reduction in the total number and value of milestone payments payable by Metabasis to Valeant upon the achievement of certain specified events to a single milestone payment due upon the first regulatory approval of pradefovir, and reduce certain royalty payments due from Metabasis to Valeant upon commercialization of pradefovir. In addition, the termination agreement was amended to transfer certain patient registry obligations, should they be required, to Metabasis from Valeant (excluding the cost thereof, up to a specified limit).

More recently, Metabasis convened a scientific advisory panel to provide an independent review of the results from the rat and mice carcinogenicity studies. The scientific advisory panel concluded that there was an acceptable margin of safety for the dose of pradefovir expected to be evaluated for a Phase 3 clinical trial. The results from the carcinogenicity studies were submitted to the FDA and were analyzed by the Executive Carcinogenicity Assessment Committee, or CAC. Based on advice from the CAC, the FDA concurred with the high multiple of human exposure at which any effects or potential effects occurred and requested that Metabasis

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submit protocols in order to resume clinical trials. Accordingly, Metabasis believes the results of the Phase 2 clinical trial support continued development and the evaluation of pradefovir in confirmatory Phase 3 clinical trials.

Product Position

Pradefovir, if approved by regulatory authorities, could be used as a first line therapy, either as a single agent or in combination with other marketed antiviral nucleosides or interferons, or as a second line therapy to provide better treatment for patients not responding well to current marketed treatments.

Primary Liver Cancer

Primary liver cancer is a malignancy originating in the liver that often kills patients within six months after diagnosis with less than 10% of patients surviving for five years or more. In the U.S., the American Cancer Society reports that primary liver cancer is the ninth leading cause of cancer mortality in men and is the twelfth leading cause of cancer mortality in women. The American Cancer Society estimates that approximately 18,550 new cases of primary liver cancer were diagnosed in the U.S in 2007. Primary liver cancer is responsible for over 500,000 deaths per year worldwide.

While the definitive cause of primary liver cancer is unknown, it is well recognized that patients with chronic liver diseases such as hepatitis B, hepatitis C, alcoholic cirrhosis and iron overload are at high risk for developing liver cancer over a 30-year period. In the U.S., Europe and Japan, hepatitis C is considered to be one of the leading risk factors associated with primary liver cancer. The incidence of primary liver cancer in these countries is expected to increase over the next 10 to 15 years due to the large number of people previously infected with hepatitis C whose disease has or will advance to liver cirrhosis. In the U.S. alone, the National Institutes of Health projects a four-fold increase over this period in patients with chronic hepatitis C.

Metabasis believes that given the current and projected primary liver cancer incidence levels, and the cost of similar cancer therapeutics, an approved drug for primary liver cancer could present a substantial worldwide commercial opportunity.

Current Treatments

Treatment methods for patients with primary liver cancer are typically determined by the stage of the disease at diagnosis. Patients are generally classified as eligible for surgical tumor resection, inoperable and non-terminal, or terminal. According to the American Cancer Society, on average, over a ten-year period, over 16% of patients have been treated by surgical tumor resection. Additionally, over 50% of patients are inoperable and non-terminal and 26% of patients are terminal. Patients who undergo successful tumor resection have a future life expectancy of about five years, whereas all other terminal patients have an average life expectancy of less than one year. Treatment for inoperable and terminal patients is dependent on many factors. Liver transplantation represents the only method that can cure the disease, but few transplants are possible due to the severe shortage in liver donors and the high cost.

In late 2007, the FDA approved NEXAVAR® (sorafenib) as the first and only drug for the treatment of primary liver cancer. Sorafenib works by blocking certain kinases, or proteins, that trigger cancer cells to divide and control the growth of new blood vessels that feed cancer tumors. However, the survival benefit of sorafenib is modest and there is also growing evidence that sorafenib is poorly tolerated in primary liver cancer patients, especially those with advanced liver disease. Alternative therapies include chemotherapy injected through a catheter directly into the liver (known as Transcatheter Arterial Chemoembolization, or TACE), as well as regional tumor destruction and chemotherapy with unapproved agents that have shown limited efficacy.

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In the seven major pharmaceutical markets approximately 125,000 patients were afflicted with primary liver cancer in 2007. By 2014, the prevalence rate in the seven major pharmaceutical markets is expected to increase to approximately 185,000 patients. The prevalence rate in the U.S. includes approximately 18,550 patients that were diagnosed in 2007, a number that is expected to grow to approximately 40,000 patients by 2010. In addition, China, which is not one of the seven major pharmaceutical markets, has an incidence rate of primary liver cancer of approximately 350,000 patients as of 2007. This is greater than the rest of the world combined. The incidence rate in China is expected to rise to 600,000 by 2014.

MB07133: A HepDirect prodrug of araC monophosphate for treating primary liver cancer

MB07133 is a product candidate for treating primary liver cancer, which is expected to be administered intravenously and continuously over a multiple-day period on an out-patient basis. Cytarabine, or araC, is a marketed anti-cancer drug used to treat leukemia. AraC has shown only limited success in solid tumors such as primary liver cancer because the liver lacks sufficient quantities of a particular protein, or kinase, necessary for converting it to an important intermediate form known as araCMP. MB07133 uses Metabasis' HepDirect technology to deliver this intermediate form of araC to the liver where it is then readily converted by a different liver kinase into its anti-cancer form, known as araCTP. This approach bypasses the need for the first kinase, which the liver lacks in sufficient quantities. In addition, araC, when systemically delivered is readily converted to araCTP in tissues such as the bone marrow where it can cause toxicity. MB07133 appears to avoid this potential toxicity because the HepDirect prodrug version of araCMP is not converted to araCTP in tissues outside the liver. Metabasis believes the unique ability of MB07133 to deliver araCMP selectively to the liver where it can be readily converted into its anti-cancer form will enhance efficacy while minimizing the toxicities associated with systemic araC therapy.

MB07133 has successfully completed a Phase 1/2 clinical trial designed to evaluate its safety and preliminary efficacy in non-terminal patients with inoperable primary liver cancer. In this study, MB07133 was well tolerated in this study population with reversible and manageable AEs and few significant AEs. A partial response and significant disease stabilization was observed as assessed by an independent radiology review.

MB07133 was granted Orphan Drug Designation by the FDA in September 2007 and Orphan Medicinal Product Designation by the European Commission in October 2007. Orphan drug designation is available for products designed to treat certain rare diseases and conditions, and provides several marketing incentives including a seven-year market exclusivity in the U.S. if approved.

Product Position

MB07133, if approved by regulatory authorities, could potentially be used as a chemotherapeutic treatment in combination with angiogenesis inhibitors, such as sorafenib, for patients with inoperable primary liver cancer. In addition, MB07133 could be used as second line therapy in patients that have failed or cannot tolerate sorafenib. Given the current and projected primary liver cancer prevalence rates, and the cost of similar cancer therapies, Metabasis believes that MB07133, if approved by regulatory authorities, could present a significant worldwide commercial opportunity.

Liver Disease-Related Programs***Viral enzyme inhibitor programs for treating hepatitis C***

Hepatitis C is a viral disease that causes inflammation of the liver that may lead to cirrhosis, primary liver cancer and other long-term complications. Roughly 3% of the world population has been infected with hepatitis C. In the U.S., nearly 4 million people are infected with hepatitis C, of which 2.7 million are chronically infected. Since the discovery of the hepatitis C virus in 1989, many antiviral targets have been identified, and many novel approaches to hepatitis C infection are currently being evaluated.

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Metabasis has entered into a non-exclusive collaboration with Roche to create liver-targeted prodrugs of certain viral enzyme inhibitors that Roche has supplied to us. Roche is solely responsible for conducting and funding all development work for compounds resulting from the collaboration and for commercializing any resulting products. If a product is successfully developed, Metabasis will receive milestone payments as well as receive a portion of the revenue from sales of a drug in the form of a royalty on net sales.

HepDirect Technology

Metabasis HepDirect technology is a proprietary technology used to target drugs to the liver. Metabasis applied this technology to develop pradefovir, MB07133 and MB07811.

Organ-specific drug targeting is a well recognized potential strategy for either increasing drug efficacy, improving drug safety, or both. However, despite several decades of research, few drugs that depend on tissue targeting to gain a therapeutic benefit have advanced into the clinic. Metabasis has extensive know-how in processes that reside in the liver that are important for drug uptake, metabolism and excretion. Using this knowledge and expertise, Metabasis has developed strategies for targeting certain drugs to the liver in order to affect proteins and pathways in the liver that represent potential drug targets for treating metabolic diseases and chronic liver diseases.

The HepDirect technology has been used with certain drugs to deliver high concentrations of the biologically active drug to the liver while keeping drug concentrations in peripheral tissues low. The technology entails making a simple chemical modification that renders the target drug biologically inactive. Metabasis refers to the modified drug as a HepDirect prodrug. The following diagram shows how a HepDirect prodrug works:

Administration of HepDirect prodrugs results in their distribution throughout the body. HepDirect prodrugs, unlike most other prodrug classes, are generally stable in the blood and tissues outside the liver. Because of the limited capacity of non-liver tissues to metabolize and convert HepDirect prodrugs to their active forms, distribution into these tissues leads to rapid reappearance of the prodrugs in the blood stream and ultimately diffusion of the prodrugs from the blood into the liver. In the liver, HepDirect prodrugs are metabolized by an enzyme expressed predominantly in the liver (CYP3A4) which converts the prodrug to the biologically active form of the target drug. Because HepDirect prodrugs are metabolized primarily in the liver, higher target drug levels are achieved in the liver while target drug levels outside of the liver are diminished.

Metabasis HepDirect technology is broadly applicable to a wide variety of drugs. In some cases, the technology may enable the use of drugs that are otherwise ineffective or poorly effective in a particular liver disease due to the drug's failure to achieve therapeutic levels in the liver or due to the inability to administer doses that achieve therapeutic levels as a consequence of drug-related toxicities outside of the liver.

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Metabasis has shown that its HepDirect technology can deliver compounds with anti-viral, anti-cancer or anti-hyperlipidemic activity.

Strategic Alliances

Roche

Metabasis maintains a Research Collaboration and License Agreement with Hoffmann-La Roche Inc., F. Hoffmann-La Roche Ltd. and Roche Palo Alto LLC (collectively, Roche). The collaboration operates as an agreement rather than a joint venture or other legal entity. Metabasis HepDirect liver-targeted technology is applied to proprietary Roche compounds to develop second-generation nucleoside analog drug candidates for treating hepatitis C virus. Metabasis provided a non-exclusive worldwide license to its proprietary know-how and technology to Roche through contracted research and development services during the research phase of this collaboration. By June 2009, a development candidate was identified and Roche has assumed all development responsibility. Metabasis will be eligible to receive up to \$191.0 million in additional payments upon achievement of predetermined preclinical and clinical development events as well as regulatory and commercialization events. Roche will retain full commercial rights for any marketed products resulting from the collaboration and will pay Metabasis a royalty on net sales of such products.

In June 2009, Metabasis entered into a letter agreement with Roche, which provided for the early payment by Roche of a \$2.0 million milestone payment to Metabasis, on June 1, 2009. Pursuant to the letter agreement, the payment of this milestone was accelerated in exchange for certain know-how that Metabasis is obligated to provide to Roche within 30 days of receipt of the payment. Metabasis received this milestone payment in June 2009. All other terms of the License and Collaboration Agreement are unchanged and remain in effect.

Merck

AMPK Collaboration

Metabasis maintains a collaboration agreement with Merck & Co. (Merck), to research, develop and commercialize novel small molecule therapeutics with the potential to treat type 2 diabetes, and potentially other metabolic diseases, by activating an enzyme in the liver called AMP-activated Protein Kinase (AMPK). The collaboration operates as an agreement rather than a joint venture or other legal entity. Metabasis provided research and preclinical services on jointly identified compounds for the potential treatment of type 2 diabetes and potentially other metabolic diseases. Merck is solely responsible for conducting and funding all development work for compounds resulting from this collaboration. Metabasis maintains an option to co-promote any such product in the United States.

As part of this collaboration, Merck paid an initial non-refundable license fee of \$5.0 million in July 2005 and provided research support funding of approximately \$6.3 million over the three-year research term. The three-year research term is subject to renewal for one additional year upon the parties' mutual agreement. In April 2008, the research term was extended for an additional year, through June 2009. Metabasis received \$1.5 million over the course of the one year extension to support the research efforts. Under the original collaboration agreement, Merck was also obligated to pay milestone payments if specified preclinical and clinical development and regulatory events occur and pay royalties on sales of any product resulting from this collaboration. If all preclinical and clinical milestones were achieved on multiple indications, and including the \$5.0 million initial, non-refundable license fee and the minimum \$7.8 million in research support funding, Metabasis would have been entitled to payments totaling up to \$75.8 million, plus royalties.

On June 9, 2009 Metabasis and Merck amended the License and Collaboration Agreement providing for a one-time, non refundable payment by Merck of \$6.0 million to Metabasis to satisfy all potential future milestone and royalty payments payable by Merck. All other material terms of the Collaboration Agreement are unchanged and remain in effect. The research period under this collaboration ended on June 30, 2009 and Metabasis maintains no further material performance obligations to Merck in connection with the License and Collaboration Agreement.

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Hepatitis C Collaboration

In December 2003, Metabasis entered into a collaboration agreement with Merck to discover new treatments for hepatitis C. Under this collaboration, Metabasis created liver-targeting prodrugs of certain compounds that Merck supplied to it. The research term of the collaboration was initially for one year and in January 2005, was extended for an additional year through December 2005. At the same time, the scope of the technology that Metabasis applied to the Merck compounds was expanded. Metabasis' efforts and internal costs related to the hepatitis C collaboration with Merck ceased upon completion of its research term in December 2005. Under the terms of the Merck agreement, Metabasis has received approximately \$3.2 million in cumulative license fees and sponsored research funding through December 31, 2005. Merck is solely responsible for conducting and funding all development work for any compounds resulting from these collaborations and for commercializing any resulting products.

The term of the collaboration agreement will continue until all of Merck's royalty payment obligations have expired, unless the agreement is terminated earlier. The agreement may be terminated by either party for material breach or insolvency of the other party. Merck also has the right to terminate the agreement without cause upon 90 days' advance written notice to Metabasis.

Schering Corporation

In October 2001, Metabasis entered into a development and license agreement with Valeant for the development and commercialization of pradefovir. In January 2007, Valeant, with Metabasis' consent, assigned its rights, interests and obligations under the development and license agreement to Schering and further granted Schering a license to Valeant's intellectual property related to pradefovir. Concurrently, Metabasis and Schering entered into an amended and restated development and license agreement for the continued future development and commercialization of pradefovir. Under the amended and restated development and license agreement and pursuant to Valeant's assignment, Schering was granted exclusive worldwide rights to develop and commercialize pradefovir during the term of the agreement. In September 2007, Metabasis, Schering and Valeant entered into an agreement to terminate the agreements for the development and commercialization of pradefovir. These agreements were terminated as a result of numerous factors, which may have included results from 24-month oral carcinogenicity studies of pradefovir in rats and mice. Metabasis received a non-refundable \$1.8 million up-front license fee in the first quarter of 2007 when the agreements became effective. Metabasis will not receive any additional payments related to these agreements and all rights to pradefovir have been returned to Metabasis.

In September 2008, Metabasis, Valeant and Schering entered into an agreement to amend certain terms of the assignment and assumption agreement and the termination agreement, each entered into by Valeant, Schering and Metabasis. The amendments to the assignment and assumption agreement provide for a reduction in the total number and value of milestone payments payable by Metabasis to Valeant upon the achievement of certain specified events to a single milestone payment due upon the first regulatory approval of pradefovir, and reduce certain royalty payments due from Metabasis to Valeant upon commercialization of pradefovir. In addition, the termination agreement was amended to transfer certain patient registry obligations, should they be required, to Metabasis from Valeant (excluding the cost thereof, up to a specified limit).

More recently, Metabasis convened a scientific advisory panel to provide an independent review of the results from the rat and mice carcinogenicity studies. The scientific advisory panel concluded that there was an acceptable margin of safety for the pradefovir dose projected for a Phase 3 clinical trial. The results from the carcinogenicity studies were submitted to the FDA and were analyzed by the CAC. Based on advice from the CAC, the FDA concurred with the high multiple of human exposure at which any effects or potential effects occurred and requested that Metabasis submit protocols in order to resume clinical trials.

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Intellectual Property

Metabasis owns or holds exclusive rights to many issued U.S. patents and pending U.S. patent applications related to the development and commercialization of MB07811, MB07803, pradefovir, MB07133 and its other drug candidates and research programs. These patents and applications cover composition of matter, medical indications, methods of use, methods of manufacture, formulations and other inventive results. Metabasis also owns or holds exclusive rights to various foreign patent applications that correspond to issued U.S. patents or pending U.S. patent applications.

Sales and Marketing

Metabasis does not currently have internal sales or marketing capabilities and does not intend to develop a sales and marketing infrastructure in the future.

Competition

The biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. Metabasis faces competition from many different sources, including multinational and regional commercial pharmaceutical and biotechnology enterprises, academic institutions, government agencies and private and public research institutions. Due to the high demand for treatments for liver and metabolic diseases, research is intense and new treatments are being sought out and developed by Metabasis competitors.

Metabasis is aware of many competitive products currently marketed or under development that are used to treat some of the diseases it has targeted. If MB07811 is ultimately determined safe and effective and approved for marketing, it may compete with products marketed by several large pharmaceutical companies that currently comprise a very large share of the hyperlipidemia market. The major classes of hyperlipidemia drugs include, but are not limited to:

statins, which reduce serum cholesterol levels by inhibiting a key enzyme involved in the biosynthesis of cholesterol,

fibrates, which reduce the amount of cholesterol and triglycerides (fatty substances) in blood,

nicotinic acid derivatives, which lower cholesterol and triglycerides, decrease low density lipoproteins and increase high density lipoproteins,

CAIs, which inhibit the absorption of dietary and biliary cholesterol,

bile acid sequestrants, which bind with cholesterol-containing bile acids in the intestines and remove them in bowel movements, and

statin combination therapies, which combine statins with members of the above-mentioned classes, particularly CAIs.

Several large pharmaceutical companies are also developing novel therapies that target hyperlipidemia. These companies may develop and introduce products competitive with or superior to MB07811. Atorvastatin is currently the best selling prescription medicine. In addition, generic statins (cholesterol-reducers) have recently been approved in the major pharmaceutical markets and may also compete with MB07811.

If MB07803 is ultimately determined safe and effective and approved for marketing, it may face significant competition from various formulations of metformin and products containing metformin. Metformin is a drug that inhibits liver glucose production like MB07803, but does so through an unknown mechanism other than direct inhibition of gluconeogenesis. Because it does not cause weight gain, metformin is often prescribed as a

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first-line therapy to obese type 2 diabetes patients, who are reported to comprise more than 90% of newly diagnosed type 2 subjects. In addition, inexpensive generic forms of metformin are available.

Other currently marketed drugs that may compete with MB07803 include, but are not limited to the following classes:

sulfonylureas, which lower glucose levels by inducing insulin secretion from the pancreas. This drug class has been associated with a significant risk of hypoglycemia,

thiazolidinediones, which lower glucose levels by enhancing insulin sensitivity. This drug class has been associated with fluid retention, weight gain and a risk of heart attacks and angina,

hepatic glucose output inhibitors, which lower glucose levels by inhibiting liver glucose production. The only drug in this class is metformin, which, based on a study reported in the medical journal *Diabetes*, inhibits glucose production by the liver by only approximately 20-25%, even when administered at the maximum allowed dose. Metformin therapy is associated with an increased risk of lactic acidosis in certain patient populations, including patients with kidney dysfunction. In addition, metformin therapy commonly leads to transient gastrointestinal disturbances such as nausea, diarrhea and vomiting, which may compromise patient compliance,

incretin mimetics, which lower glucose by exhibiting many of the same glucose regulating actions of naturally occurring GLP-1. GLP-1 is a peptide that facilitates the response of the pancreas and liver to fluctuations in glucose levels by its action on pancreatic beta and alpha cells, and

DPP-4 inhibitors, which inhibit an enzyme in the bloodstream that cleaves and inactivates GLP-1. Inhibition of DPP-4 thus increases the half-life of endogenous GLP-1 by preventing cleavage and inactivation of GLP-1. The overall effect of drugs in this class is to enhance glucose-dependent insulin secretion and suppress inappropriate glucagon secretion.

In addition, many companies are developing novel therapies that target diabetes.

Currently approved treatments for hepatitis B in the U.S. that may compete with pradefovir are included in the following classes:

interferons, which mimic interferon, the naturally occurring infection-fighting immune substance produced by the body,

nucleoside analogues, which chemically engineered nucleoside compounds structurally similar to the building blocks of DNA and RNA that interferes with the replication of hepatitis B, and

nucleotide analogues, which chemically engineered nucleotide compounds structurally similar to the building blocks of DNA and RNA that interferes with the replication of hepatitis B.

A direct competitor to pradefovir would be adefovir dipivoxil which is a nucleotide analogue marketed in the U.S. Pradefovir and adefovir dipivoxil are prodrugs of the same active drug, and therefore may directly compete. Other competitors to pradefovir include the nucleotide analogue, tenofovir, which has been shown to be very effective in treating hepatitis B infection and has recently been approved for marketing in the U.S. and Europe.

Sorafenib, a chemotherapy approved for treating kidney cancer, is now the only approved drug for primary liver cancer in the U.S. or Europe. Sorafenib acts to inhibit a range of tyrosine kinases, including those involved in promoting tumor angiogenesis, the growth of new blood vessels, and cell proliferation. Even with the availability of sorafenib, Metabasis believes the disease will remain poorly treated and that an agent with a

different mechanism of action like MB07133, if approved, could find wide usage.

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In addition, companies are developing therapies for other solid tumors, which may be efficacious in treating primary liver cancer. These companies may develop and introduce products competitive with MB07133.

In addition, many other companies are developing products for the treatment of the diseases Metabasis targeted and if successful, these products could compete with Metabasis products. If Metabasis product candidates receive approval, they may compete with the products of these companies as well as others in varying stages of development.

Manufacturing

Metabasis intends to rely on the resources of potential future pharmaceutical partners for the large-scale synthesis needed for any future clinical trials and commercialization of any of its product candidates. All of Metabasis current product candidates are small molecule drugs. These drugs are historically simpler and less expensive to manufacture than biologic drugs. Metabasis believes its focus on small molecule drugs gives it a manufacturing advantage over companies that develop and manufacture biologic drugs.

Government Regulation and Product Approval

Metabasis Product Candidates

Metabasis metabolic disease product candidates, MB07811 and MB07803; and Metabasis liver disease product candidates, pradefovir and MB07133 will require further clinical development and regulatory approval before they can be commercialized.

Product Regulation

Governmental authorities in the U.S. and foreign countries regulate, among other things, the preclinical and clinical testing, manufacturing, labeling, storage, recordkeeping, advertising, promotion, export, marketing and distribution of drug products. In the U.S., pharmaceutical products are regulated by the FDA under the Federal Food, Drug, and Cosmetic Act, its implementing regulations and other federal laws and regulations. Both before and after the FDA approves a product, the manufacturer and the holder of the product approval are subject to comprehensive regulatory oversight. Violations of regulatory requirements at any stage, including the preclinical and clinical testing process, the New Drug Application, or NDA, approval process, or the post-FDA-approval marketing of the product, may result in various adverse consequences. These adverse consequences may include a clinical hold on an on-going study, the FDA's delay in approving or refusal to approve a product, suspension of manufacturing or withdrawal of an approved product from the market, seizure or recall of a product or the imposition of criminal or civil penalties against the manufacturer or the holder of the product approval. In addition, later discovery of previously unknown problems may result in restrictions on a product, its manufacturer, or the NDA holder, or market restrictions through labeling changes or product withdrawal. Also, new government requirements may be established that could delay or prevent regulatory approval of Metabasis products under development.

The steps required before a new drug may be approved for marketing in the U.S. generally include:

conducting appropriate preclinical laboratory tests and preclinical toxicology studies in animals in compliance with the FDA's Good Laboratory Practice, or GLP, requirements,

the submission of the results of these evaluations and studies to the FDA, along with manufacturing information and analytical data, in an Investigational New Drug, or IND, for human clinical testing, which must become effective before human clinical trials may commence,

obtaining approval of institutional review boards, or IRBs, to introduce the product into humans in clinical studies,

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conducting adequate and well-controlled human clinical trials to establish the safety and efficacy of the product, in compliance with FDA's Good Clinical Practice, or GCP requirements,

the submission of the results of preclinical studies, clinical studies, and adequate data on chemistry, manufacturing and control information to the FDA in an NDA,

FDA review and approval of the NDA, including potential pre-approval inspections of manufacturing and testing facilities to assess compliance with the FDA's current Good Manufacturing Practice, or GMP, requirements and other FDA regulations, and

for some drugs, to manage known or potential serious risks of a drug, a risk management plan, or Risk Evaluation and Mitigation Strategy, or REMS, plan is required, which can include a Medication Guide, Patient Package Insert, a communication plan, elements to assure safe use, an implementation system and a timetable for assessment of the REMS.

Preclinical studies generally include animal studies to evaluate the product's mechanism of action, safety and efficacy. Compounds must be produced according to applicable GMP requirements and preclinical safety tests must be conducted in compliance with FDA's GLP and similar international regulations. The results of the preclinical tests, together with manufacturing information and analytical data, are generally submitted to the FDA as part of an IND, which must become effective before human clinical trials may be commenced. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA before that time requests an extension or raises concerns about the conduct of the clinical trials described in the application. The sponsor of the application and the FDA must resolve any outstanding concerns before clinical trials can proceed. Clinical trials involve the administration of the investigational product to healthy volunteers or to patients with the disease or disorder being tested, under the supervision of a qualified principal investigator, and must be conducted in accordance with good clinical practices and other requirements, including the informed consent of human test subjects. Clinical trials are conducted in accordance with protocols that detail many items, including:

the objectives of the study,

the parameters to be used to monitor safety, and

the efficacy criteria to be evaluated.

Each protocol must be submitted to the FDA as part of the IND. Further, each clinical study must be reviewed and approved by an IRB at each institution at which the study will be commenced, prior to the recruitment of subjects. The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap. In Phase 1, the initial introduction of the drug into human subjects, the drug is tested in healthy volunteers or, on occasion, in patients, for safety and, as appropriate, for absorption, metabolism, distribution, excretion, pharmacodynamics, pharmacokinetics and other preliminary measures of efficacy. Phase 2 usually involves initial studies designed to identify doses of the drug that result in suitable efficacy, safety and tolerance in patients with the targeted disease. A clinical trial designed to generate efficacy data but that is not expected to satisfy FDA criteria for NDA approval is sometimes referred to as a Phase 2 study. Phase 3 clinical trials, commonly referred to as pivotal studies, are undertaken to provide proof of clinical efficacy and to provide sufficient evidence of safety to justify FDA approval, typically within an expanded and diverse patient population at multiple, geographically dispersed clinical study sites. Some clinical trials that combine elements of two phases may be referred to as a Phase 1/2 or a Phase 2/3 clinical trial. Phase 1, Phase 2 or Phase 3 testing may not show sufficient safety or efficacy within any specific time period, if at all, with respect to any products being tested. Furthermore, the sponsor, the FDA or the IRB may suspend clinical trials at any time on various grounds, including a finding that the healthy volunteers or patients are being exposed to an unacceptable health risk.

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The results of the preclinical studies and clinical trials, together with detailed information on the manufacture and composition of the product, and if required, a risk management plan, are submitted to the FDA as part of an NDA requesting approval for the marketing of the product. The FDA can also require a post-approval observational study or an outcomes study be submitted as part of the NDA for approval. The cost of preparing and submitting an NDA as well as costs associated with any required post-approval studies for on-going risk assessment are substantial.

The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that the NDA is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under federal law, the FDA has agreed to certain performance goals in the review of NDAs. The goal for review of most such applications for non-priority drug products is ten months and for priority drug products is six months. The review process is often significantly extended by FDA requests for additional information or clarification regarding information already provided in the submission. The FDA may also refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee.

If FDA evaluations of the NDA and the manufacturing facilities are favorable, the FDA may issue an approval letter, or, in some cases, a complete response letter is issued at the end of the review. A complete response letter takes the place of the prior approvable and not approvable letters issued by the FDA. A complete response letter will be issued to let a company know that the review period for a drug is complete and that the application is not yet ready for approval. The letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. As a condition of NDA approval, the FDA may require post approval testing and surveillance to monitor the drug's safety or efficacy and may impose other conditions, including labeling restrictions which can materially impact the potential market and profitability of the drug. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

Once the NDA is approved, a product will be subject to certain post-approval requirements, including requirements for adverse event reporting and submission of periodic reports. Additionally, the FDA also strictly regulates the promotional claims that may be made about prescription drug products. In particular, the FDA requires substantiation of any claims of superiority of one product over another including, in many cases, requirements that such claims be proven by adequate and well controlled head-to-head clinical trials. To the extent that market acceptance of Metabasis products may depend on their superiority over existing therapies, any restriction on Metabasis' ability to advertise or otherwise promote claims of superiority, or requirements to conduct additional expensive clinical trials to provide proof of such claims, could negatively affect the sales of its products and/or substantially increase its operating costs.

If the FDA's evaluation of the NDA submission or manufacturing facilities is not favorable, the FDA may refuse to approve the NDA or issue a complete response letter. In this context, the complete response letter outlines the deficiencies in the submission and often requires additional testing or information in order for the FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. With limited exceptions, FDA may withhold approval of an NDA regardless of prior advice it may have provided or commitments it may have made to the sponsor.

FDA approval of any application may entail many delays or never be granted. Moreover, if regulatory approval of a product is granted, the approval may include limitations on the uses or patient populations for

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which the product may be marketed. Further, product approvals may be withdrawn if compliance with regulatory standards is not maintained or if safety or manufacturing problems occur following initial marketing. Finally, if there are any modifications to the drug, including changes in indications, labeling or manufacturing processes or facilities, Metabasis or its collaborators may be required to submit and obtain FDA approval of a new NDA or NDA supplement, which may require the development of additional data or the conduct of additional preclinical studies and clinical trials.

Among the conditions for approval is the requirement that the prospective manufacturer's quality control, recordkeeping and manufacturing procedures conform to current good manufacturing practices, or cGMP, requirements enforced by the FDA through its facilities inspection program. In addition, product manufacturing facilities in California are subject to licensing requirements of the California Department of Health Services. These requirements must be followed at all times in the manufacture of the approved product, and manufacturing facilities are subject to inspection by the FDA and the California Department of Health, or other applicable governmental authorities, at any time. In complying with these requirements, manufacturers must continue to expend time, money and effort in the area of production and quality control to be certain of full compliance. The applicable requirements are complex, can be subject to differing interpretations and are subject to change without clear advance notice or guidance from the FDA. Any failure to comply with these requirements may subject manufacturers to, among other things, notices or letters detailing alleged deviations and demanding corrective actions, actions seeking fines and civil penalties, suspension or delay in product approvals, product seizure or recall, suspension of manufacturing, or withdrawal of product approval.

Once an NDA is approved, the product covered thereby becomes a listed drug which can, in turn, be cited by potential competitors in support of approval of an abbreviated NDA, or ANDA. An ANDA provides for marketing of a drug product that has the same active ingredients in the same strengths and dosage form as the listed drug and has been shown through bioequivalence testing to be therapeutically equivalent to the listed drug. There is no requirement, other than the requirement for bioequivalence testing, for an ANDA applicant to conduct or submit results of preclinical or clinical tests to prove the safety or effectiveness of its drug product. Drugs approved in this way are commonly referred to as generic equivalents to the listed drug, are listed as such by the FDA, and can often be substituted by pharmacists under prescriptions written for the original listed drug.

There are limitations on the timing of FDA's ability to approve an ANDA for a generic equivalent of a listed drug. In the event that the sponsor of the listed drug has properly informed the FDA of patents covering its listed drug, applicants submitting an ANDA referencing that drug are required to certify whether they intend to market their generic products prior to expiration of those patents. If an ANDA applicant certifies that it believes one or more listed patents are invalid or not infringed, it is required to provide notice of its filing to the NDA sponsor and the patent holder. If the patent holder then initiates a suit for patent infringement against the abbreviated NDA sponsor within 45 days of receipt of the notice, FDA cannot grant effective approval of the ANDA until either 30 months has passed or there has been a court decision holding that the patents in question are invalid or not infringed. A holding that a valid and enforceable listed patent is infringed will preclude approval of the ANDA until the expiration of that patent. If the ANDA applicant certifies that it does not intend to market its generic product before some or all listed patents on the listed drug expire, then FDA cannot grant effective approval of the ANDA until those patents expire. Under Federal law, the term of a patent covering a new chemical entity can be extended by up to five years, for an effective patent life of up to 14 years after approval, based on restoration of part of the patent life lost during clinical testing and FDA review.

Federal law also provides for periods of non-patent exclusivity that also limit the timing of potential approval of an ANDA for a generic equivalent to a listed drug. These include a period of three years of non-patent exclusivity following approval of a listed drug that contains previously approved active ingredients but is approved in a new dosage, dosage form, route of administration or combination, or for a new use, the approval of which was required to be supported by new clinical trials conducted by or for the sponsor, during which such three year period FDA cannot grant effective approval of an ANDA based on that listed drug. Federal law also provides a period of five years following approval of a drug containing no previously approved active

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ingredients, during which an ANDA for a generic equivalent cannot be submitted unless the submission accompanies a challenge to a listed patent, in which case the submission may be made four years following the original product approval.

The first ANDA applicant submitting a substantially complete application certifying that listed patents for a particular product are invalid or not infringed may qualify for a period of 180 days after a court decision of invalidity or non-infringement or after it begins marketing its product, whichever occurs first, during which subsequently submitted ANDAs cannot be granted effective approval. Similar non-patent exclusivity restrictions and patent certification requirements apply to so-called 505(b)(2) NDA applications which rely, in part or in whole, on data generated by or for parties other than the applicant to support an NDA approval.

FDA also imposes a number of complex requirements and restrictions on entities that advertise and promote prescription drugs, which include, among others, standards for and regulations of print and in-person promotion, product sampling, 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 Federal Food, Drug and Cosmetic Act, and failure to abide by FDA requirements can result in penalties and other enforcement actions, including the issuance of warning letters or other letters objecting to violations and directing that deviations from FDA standards be corrected, total or partial suspension of production, and state and federal civil and criminal investigations and prosecutions.

Federal regulations and FDA policies prohibit a sponsor or investigator, or any person acting on behalf of a sponsor or investigator, from representing in a promotional context that an investigational new drug is safe or effective for the purposes for which it is under investigation. Prior to approval of a product candidate, any assertion that one of Metabasis' product candidates is safe or effective for any purpose or that it is superior to any currently approved product could result in regulatory action by FDA and could delay approval of the product candidate.

A variety of Federal and state laws apply to the sale, marketing and promotion of pharmaceuticals that are paid for, directly or indirectly, by Federal or state health care programs, such as Medicare and Medicaid. The restrictions imposed by these laws are in addition to those imposed by the FDA and corresponding state agencies. Some of these laws significantly restrict or prohibit certain types of sales, marketing and promotional activities by pharmaceutical manufacturers. Violation of these laws can result in significant criminal, civil, and administrative penalties, including imprisonment of individuals, fines and penalties and exclusion or debarment from Federal and state health care and other programs. Many private health insurance companies also prohibit payment to entities that have been sanctioned, excluded, or debarred by Federal agencies. Metabasis is also subject to various laws and regulations regarding laboratory practices, the experimental use of animals, and the use and disposal of hazardous or potentially hazardous substances in connection with Metabasis' research. In each of these areas, as above, the FDA and other agencies have broad regulatory and enforcement powers, including the ability to impose fines and civil penalties, suspend or delay issuance of approvals, seize or recall products, and withdraw approvals, any one or more of which could have a material adverse effect upon Metabasis.

Employees

As of December 11, 2009, Metabasis employed one full-time employee.

Corporate Information

Metabasis was incorporated in Delaware in April 1997. Metabasis' principal executive offices are located at 11119 North Torrey Pines Road, La Jolla, California 92037. Metabasis has a wholly owned subsidiary, Aramed, Inc., which does not conduct an active business. Metabasis telephone number is (858) 587-2770.

Table of Contents**Available Information**

Metabasis makes available free of charge, on or through its Internet website, its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports, as soon as practicable after it electronically files these materials with, or furnishes them to, the Securities and Exchange Commission. The address of Metabasis' website is <http://www.mbasis.com>. The information contained in, or that can be accessed through, Metabasis' website is not part of this annual report on Form 10-K.

Properties

Metabasis believes that its currently licensed and occupied facilities are well maintained, in good operating condition and are sufficient for its current needs. The following table is a summary of its currently leased and occupied facilities:

Leased Property Location	Square Feet	Use	Lease Expiration Date
La Jolla, California	82,000	Research, development and administrative	January 2, 2010 ⁽¹⁾

- (1) In July 2009, Metabasis entered into an Agreement for Termination of Lease and Voluntary Surrender of Premises, or, as amended, the Termination Agreement, with ARE-SD Region No. 24, LLC, or Owner, to terminate the Lease Agreement, dated December 21, 2004, by and between Metabasis and Owner, as amended. The Lease Agreement governed the terms and conditions for the use of the facilities Metabasis occupies as its corporate offices. Under the Lease Agreement Metabasis was obligated to make future payments to the Owner for a base monthly rent and operating expenses totaling \$25.7 million between August 2009 and October 2015.

Pursuant to the terms of the Termination Agreement, the Lease Agreement terminated effective July 21, 2009 and the Owner granted Metabasis a license for the continued use of the facilities. The license will automatically expire on the earlier to occur of: (i) January 2, 2010 or (ii) upon receipt of a 30 day notice of termination from the Owner to Metabasis. In consideration of the early termination of the Lease Agreement, Metabasis agreed to the following: (i) to pay the Owner a fee of \$2.5 million on July 21, 2009, (ii) pay up to an additional \$1.5 million to be paid as 35% of the gross revenues earned by Metabasis from licenses, collaboration arrangements or sales of Metabasis' existing pipeline of therapeutic programs entered into or effected during the period commencing July 1, 2009 and ending September 30, 2013, provided that the proceeds from these revenue generating events have been received by Metabasis, (iii) to grant the Owner a warrant to purchase 1.0 million shares of Metabasis' common stock at \$0.41 per share, (iv) to surrender and forfeit the \$152,356 security deposit to the Owner and (v) transfer certain assets to the Owner consisting of leasehold improvement and furniture. The Termination Agreement excuses both Metabasis and the Owner from any further material obligations with respect to the Lease Agreement as of July 21, 2009, including the outstanding balance of approximately \$0.2 million in tenant improvement loans due to the Owner.

Legal Proceedings

Metabasis is currently not a party to any material legal proceedings.

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**METABASIS MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

Special Note Regarding Forward-Looking Statements

You should read the following discussion and analysis together with Metabasis' unaudited financial statements and the notes to those statements included elsewhere in this proxy statement/prospectus, as well as Metabasis' audited financial statements and notes to those statements as of and for the year ended December 31, 2008 included in Metabasis' annual report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2009. This discussion contains forward-looking statements that involve risks and uncertainties. As a result of many factors, such as those set forth under "Risk Factors" and elsewhere in this proxy statement/prospectus and in Metabasis' other filings with the Securities and Exchange Commission, Metabasis' actual results may differ materially from those anticipated in these forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements. The forward-looking statements speak only as of the date on which they are made, and Metabasis undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they are made.

Overview

Metabasis is a biopharmaceutical company that has established a pipeline of novel drugs for metabolic diseases using its proprietary technology and its knowledge of processes and pathways within the liver that are useful for liver-selective drug targeting and treatment of metabolic diseases. Metabasis' product pipeline includes product candidates and advanced discovery programs for the treatment of metabolic and liver diseases such as diabetes, hyperlipidemia, hepatitis and primary liver cancer.

Metabasis currently has four product candidates at the clinical stage of development. These product candidates include Metabasis' metabolic disease proprietary product candidates, MB07811 and MB07803, which have been developed as potential treatments for hyperlipidemia, and type 2 diabetes, respectively, and Metabasis' liver disease proprietary product candidates, pradefovir and MB07133, which have been developed as potential treatments for hepatitis B and primary liver cancer, respectively. In addition, Metabasis has compounds generated from various advanced research programs, such as its glucagon antagonist program. At this time, Metabasis does not intend to independently develop any of the assets within its product pipeline.

Recent Developments

Lease Termination

In July 2009, Metabasis entered into an Agreement for Termination of Lease and Voluntary Surrender of Premises, or, as amended, the Termination Agreement, with ARE-SD Region No. 24, LLC, or Owner, to terminate the Lease Agreement, dated December 21, 2004, by and between Metabasis and Owner, as amended. The Lease Agreement governed the terms and conditions for the use of the facilities Metabasis occupies as its corporate offices. Under the Lease Agreement Metabasis was obligated to make future payments to the Owner for a base monthly rent and operating expenses totaling \$25.7 million between August 2009 and October 2015.

Pursuant to the terms of the Termination Agreement, the Lease Agreement terminated effective July 21, 2009 and the Owner granted Metabasis a license for the continued use of the facilities. The license will automatically expire on the earlier to occur of: (i) January 2, 2010 or (ii) upon receipt of a 30 day notice of termination from the Owner to Metabasis. In consideration of the early termination of the Lease Agreement, Metabasis agreed to the following: (i) to pay the Owner a fee of \$2.5 million on July 21, 2009, (ii) pay up to an additional \$1.5 million to be paid as 35% of the gross revenues earned by Metabasis from licenses, collaboration arrangements or sales of Metabasis' existing pipeline of therapeutic programs entered into or effected during the period commencing July 1, 2009 and ending September 30, 2013, provided that the proceeds from these revenue generating events have been received by us, (iii) to grant the Owner a warrant to purchase 1.0 million shares of

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Metabasis common stock at \$0.41 per share, (iv) to surrender and forfeit the \$152,356 security deposit to the Owner and (v) transfer certain assets to the Owner consisting of leasehold improvement and furniture. The Termination Agreement excuses both Metabasis and the Owner from any further material obligations with respect to the Lease Agreement as of July 21, 2009, including the outstanding balance of approximately \$0.2 million in tenant improvement loans due to the Owner.

EquipNet Sales

In July 2009, Metabasis entered into an agreement with EquipNet, Inc., or EquipNet, providing for EquipNet to sell Metabasis laboratory and office equipment. EquipNet receives a pre-determined commission for proceeds generated from the sale of these assets. Amounts were payable to Metabasis from EquipNet in periodic installments through October 2009 for the first \$1.5 million of proceeds. All proceeds in excess of \$1.5 million due to Metabasis will be paid as earned. During the three months ended September 30, 2009, EquipNet sold assets with an aggregate carrying value of approximately \$0.6 million for proceeds of approximately \$1.5 million resulting in a gain of \$0.8 million, net of selling costs. As of September 30, 2009, the remaining carrying value of assets held for sale was \$0.9 million.

Going Concern

After considering the impact of the Termination Agreement and the EquipNet transaction, together with the cash available at September 30, 2009, Metabasis expects its working capital to fund its current operations through March 2010 or, if sooner, the completion of the merger. In the event the merger is not completed and Metabasis is otherwise unable to secure additional resources, including through another strategic transaction, Metabasis will be required to cease operations entirely.

In connection with Metabasis fiscal year end 2008 financial statement audit, Metabasis independent registered public accounting firm expressed substantial doubt about Metabasis ability to continue as a going concern given its recurring net losses, negative cash flows from operations and its working capital not being sufficient to fund its operations beyond December 31, 2009.

Research and Development

Through May 2009, Metabasis research and development expenses consist primarily of salaries, stock-based compensation and other expenses for research and development personnel, costs associated with the development and clinical trials of its product candidates, facility costs, supplies and materials, costs for consultants and related contract research and depreciation. Metabasis charges all research and development expenses to operations as they are incurred. From June 1, 2009 through September 30, 2009, Metabasis research and development expenses consist primarily of salaries, impairment charges and various restructuring costs.

General and Administrative

General and administrative expenses consist primarily of salaries, stock-based compensation and other related costs for personnel in executive, finance, accounting, business development, information systems, legal and human resource functions. Other costs include facility costs not otherwise included in research and development expenses, depreciation, professional fees for legal and accounting services and various restructuring costs.

Other Income (Expense)

Other income, net includes interest earned on Metabasis cash, cash equivalents and securities available-for-sale, net of interest expense.

Table of Contents**Critical Accounting Policies**

Metabasis' discussion and analysis of its financial condition and results of operations are based on its financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP. The preparation of these financial statements requires Metabasis to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. Metabasis reviews its estimates on an on-going basis. Metabasis bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. Metabasis believes the following accounting policies to be critical to the judgments and estimates used in the preparation of its financial statements.

Revenue Recognition. Metabasis' collaboration agreements generally contain multiple elements, including access to its proprietary HepDirect technology and research and development services. Payments under Metabasis' collaborations are generally made in the form of up-front license fees, milestone payments and downstream royalties. All fees are nonrefundable. Revenue from milestones is recognized when earned, provided that:

the milestone event is substantive and its achievability was not reasonably assured at the inception of the agreement, and

collaborator funding, if any, of Metabasis' performance obligations after the milestone achievement will continue at a level comparable to before the milestone achievement.

If both of these criteria are not met, the milestone payment is recognized over the remaining minimum period of Metabasis' performance obligations under the agreement. Up-front, nonrefundable fees under Metabasis' collaborations are recognized over the period the related services are provided. Nonrefundable upfront fees not associated with Metabasis' future performance are recognized when received. Amounts received for sponsored research funding are recognized as revenues as the services are performed. Amounts received for sponsored research funding for a specific number of full-time researchers are recognized as revenue as the services are provided, as long as the amounts received are not refundable regardless of the results of the research project.

Stock-Based Compensation. Metabasis grants equity based awards under three stockholder-approved share-based compensation plans. Metabasis may grant options and restricted stock awards to employees, directors and consultants under its Amended and Restated 2001 Equity Incentive Plan. Metabasis also grants awards to non-employee directors under its 2004 Non-Employee Directors' Stock Option Plan. All of Metabasis employees are eligible to participate in Metabasis' 2004 Employee Stock Purchase Plan which provides a means for employees to purchase common stock at a discount through payroll deductions. As of September 30, 2009, Metabasis had approximately \$1.5 million of unrecognized compensation expense, which it expects to recognize over a weighted average period of 2.4 years.

Metabasis estimates the fair value of stock options granted using the Black-Scholes Merton, or Black-Scholes, option valuation model. This fair value is then amortized over the requisite service periods of the awards. The Black-Scholes option valuation model requires the input of subjective assumptions, including the option's expected life and price volatility of the underlying stock. As stock-based compensation expense is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. Metabasis estimates forfeitures at the time of grant and revise, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based on historical experience. Metabasis may elect to use different assumptions under the Black-Scholes option valuation model in the future, which could materially affect its net loss and net loss per share.

Restructuring Charges. In accounting for restructuring charges Metabasis considers the primary elements to its restructuring plans: one-time termination benefits and the discontinued use or abandonment of any assets. Metabasis recognizes the fair value of one-time termination benefits when it has taken actions or has the

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appropriate approval for taking action, and when a liability is incurred (when the plan has been communicated to employees). If employees are required to render service beyond a 60-day minimum retention period, the fair value of the obligation is determined on the date of the communication to the employee and recognized over the service period. Metabasis recognizes charges for the abandonment of assets in the period it ceases to use the assets. Metabasis recognizes the cumulative effect of any changes to the plan subsequent to the communication date and cease-use date in the period of the change.

Asset Impairment. In accounting for the impairment or disposal of long-lived assets, Metabasis assesses the recoverability of the affected long-lived assets by determining whether the carrying value of such assets can be recovered through undiscounted future operating cash flows. If impairment is indicated, Metabasis measures the amount of such impairment by comparing the carrying value of the asset to the estimated fair value of the related asset, which is generally determined based on the present value of the expected future cash flows. In the instance where a long-lived asset is to be abandoned it is disposed of when it ceases to be used. Metabasis revises its estimates for depreciation based on the plan of disposal or when it ceases to use such assets.

Results of Operations*Comparison of the Three Months Ended September 30, 2009 and 2008*

Revenues. Revenues were \$4.9 million for the three months ended September 30, 2009 compared to \$1.4 million for the three months ended September 30, 2008. The \$3.5 million increase was mainly due to a \$2.0 milestone payment received from Roche in exchange for the transfer to Roche of certain know-how related to Metabasis HCV collaboration as well as an increase of approximately \$1.9 million related to accelerating the unamortized license fee related to Metabasis HCV collaboration as a result of Roche not extending the research term beyond the first year of the two year term. These increases were offset by a decrease of approximately \$0.4 million related to the Merck collaboration that ended during the second quarter of 2009.

Research and Development Expenses. Research and development expenses were \$0.4 million for the three months ended September 30, 2009 compared to \$8.5 million for the three months ended September 30, 2008. The \$8.1 million decrease was mainly due to a decrease of \$4.5 million in payroll and related benefits as a result of lower headcount, a decrease of \$1.2 million in clinical, pre-clinical and development expenses for the MB07811, MB07803, MB07133 and other research programs and a decrease of \$0.5 million in non-cash stock-based compensation. In addition, Metabasis recognized approximately \$0.3 million in gains from entering into settlement agreements with certain vendors. In connection with the restructuring in May 2009, all research and development activities were discontinued. As a result, all facilities and other formerly allocated overhead costs subsequently became fully absorbed by the general and administrative function resulting in a decrease of \$1.8 million in depreciation and occupancy costs. Offsetting the decreases was an impairment charge of approximately \$0.2 million related to classifying certain lab equipment and computers as assets held for sale in connection with the EquipNet agreement. Metabasis does not expect to incur any additional research and development costs.

General and Administrative Expenses. General and administrative expenses were \$2.1 million for the three months ended September 30, 2009 compared to \$2.7 million for the three months ended September 30, 2008. The \$0.6 million decrease was mainly due to a decrease of \$0.8 million in payroll and related benefits as a result of lower headcount and a decrease of \$0.3 in professional services, non-cash stock-based compensation and other miscellaneous expenses. In connection with the restructuring in May 2009, all research and development activities were discontinued. As a result, all facilities and other formerly allocated overhead costs subsequently became fully absorbed by the general and administrative function resulting in an approximate \$0.5 million increase in costs reflected in general and administrative expenses.

Other Operating Expense. For the three months ended September 30, 2009 Metabasis recognized a loss of approximately \$0.6 million related to terminating its facility lease in July 2009. Also for the three months ended September 30, 2009, Metabasis recognized a gain of approximately \$0.8 million on the sale of assets held for sale under the EquipNet agreement entered into in July 2009.

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Other Income (Expense). Net interest expense was immaterial for the three months ended September 30, 2009 compared to net interest expense of \$0.1 million for the three months ended September 30, 2008. The change was primarily a result of decreased interest expense associated with the settlement of Metabasis former debt obligations with Oxford Finance Corporation during the first half of 2009 and decreased interest income as a result of lower cash balances in the third quarter of 2009 as compared to the third quarter of 2008.

Comparison of the Nine Months Ended September 30, 2009 and 2008

Revenues. Revenues were \$16.5 million for the nine months ended September 30, 2009 compared to \$3.0 million for the nine months ended September 30, 2008. The \$13.5 million increase was mainly due to a \$6.0 million one-time, non-refundable payment received from Merck in settlement of all potential future amounts payable by Merck in the form of milestone or royalty payments under Metabasis AMPK collaboration agreement. The increase was also due to a \$6.7 million increase in license and research revenues from Metabasis HCV collaboration with Roche as a result of accelerating the unamortized license fee due to Roche not extending the research term of the collaboration beyond the first year of the two year term, as well as the \$2.0 million milestone payment received from Roche in exchange for the transfer of certain know-how related to Metabasis collaboration. These increases were offset by a decrease of \$1.2 million in license and research revenues from Metabasis AMPK collaboration with Merck as the research period naturally ended in the second quarter of 2009.

Research and Development Expenses. Research and development expenses were \$11.2 million for the nine months ended September 30, 2009 compared to \$27.9 million for the nine months ended September 30, 2008. The \$16.7 million decrease was mainly due to a decrease of \$10.6 million in payroll and related benefits as a result of lower headcount, a decrease of \$4.0 million in clinical, preclinical and development expenses for the MB07811, MB07803, MB07133 and other research programs, and a decrease of \$1.2 million in non-cash stock-based compensation. Metabasis also recognized approximately \$0.3 million in gains from entering into settlement agreements with certain vendors. In addition, Metabasis experienced a decrease of \$2.8 million in depreciation and occupancy costs, primarily as a result of a change in the allocation of these costs. In connection with the restructuring in May 2009, all research and development activities were discontinued. As a result, all facilities and other formerly allocated overhead costs subsequently became fully absorbed by the general and administrative function. These decreased costs were partially offset by a \$1.6 million increase in costs associated with severance benefits provided in connection with the January 2009 and May 2009 restructurings and \$0.7 million in costs associated with the disposal and/or discontinued use of various long-lived assets. Metabasis does not expect to incur any additional research and development costs.

General and Administrative Expenses. General and administrative expenses were \$7.5 million for the nine months ended September 30, 2009 compared to \$7.7 million for the nine months ended September 30, 2008. The \$0.2 million decrease was primarily comprised of a \$1.5 million decrease in payroll and related benefits due to lower headcount and a \$0.4 million decrease in professional services. In connection with the restructuring in May 2009, all research and development activities were discontinued. As a result, all facilities and other formerly allocated overhead costs subsequently became fully absorbed by the general and administrative function resulting in an approximate \$1.3 million increase in costs reflected in general and administrative expenses. In addition, Metabasis incurred \$0.4 million in costs associated with severance benefits provided in connection with the January 2009 and May 2009 restructurings and \$0.1 million in costs associated with the disposal and/or discontinued use of various long-lived assets.

Other Operating Expense. For the nine months ended September 30, 2009 Metabasis recognized a loss of approximately \$0.6 million related to terminating its facility lease in July 2009. Also for the nine months ended September 30, 2009, Metabasis recognized a gain of approximately \$0.8 million on the sale of assets held for sale under the EquipNet agreement entered into in July 2009.

Other Income (Expense). Net interest expense was \$0.5 million for the nine months ended September 30, 2009 compared to net interest income of \$0.1 million for the nine months ended September 30, 2008. The \$0.6 million change was primarily a result of increased interest expense associated with the settlement of Metabasis

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former debt obligations with Oxford and decreased interest income as a result of lower cash balances in the nine months of 2009 as compared to the first nine months of 2008. These impacts were partially offset by a \$0.2 million gain recognized from the restructuring of Metabasis' debt obligation with Oxford.

Liquidity and Capital Resources

Since Metabasis' inception, it has funded its operations primarily with \$55.8 million in net proceeds from equity financings prior to becoming a public company and \$117.4 million in aggregate net proceeds from its initial public offering in June 2004, a private placement of common stock and warrants in October 2005, a registered direct offering of common stock in March 2006 and Metabasis' warrant exchange and concurrent private placement in April 2008.

As of September 30, 2009, Metabasis had \$2.2 million in cash and cash equivalents as compared to cash, cash equivalents and securities available-for-sale of \$21.6 million as of December 31, 2008, a decrease of \$19.4 million. The decrease is primarily a result of net cash used in operations of \$9.3 million, \$8.6 million of aggregate payments made during the first half of 2009 in final settlement of Metabasis' debt obligation with Oxford and the \$2.5 million payment related to the lease termination, offset by \$0.9 million in proceeds received from the EquipNet agreement.

After considering the impact of the recent transactions described under "Recent Developments" above, together with the cash available at September 30, 2009, Metabasis expects its working capital to fund its current operations through March 2010 or if sooner, the completion of the merger. In the event the merger is not completed and Metabasis is otherwise unable to secure additional resources, including through another strategic transaction, Metabasis will be required to cease operations entirely. If Metabasis raises additional funds by issuing equity securities, Metabasis' stockholders will experience significant dilution of their ownership interests. If Metabasis raises additional funds by issuing debt or other senior securities, then the rights, preferences and privileges of Metabasis' existing common stock may be junior to any rights, preferences or privileges that may be established in connection with any such issuances.

The following summarizes Metabasis' long-term contractual obligations as of September 30, 2009 (in thousands):

	Total	Payments Due by Period			
		Less than 1 Year	1 to 3 Years	4 to 5 Years	After 5 Years
Operating leases	\$ 20	\$ 8	\$ 12	\$	\$
Capital leases	35	26	9		
Interest on capital leases	3	2	1		
Total	\$ 58	\$ 36	\$ 22	\$	\$

Metabasis has maintained employment agreements with its executive officers and certain other key employees that, under certain circumstances, provide for the continuation of salary and certain other benefits if these individuals are terminated under specified circumstances. These agreements generally expire upon termination for cause or when Metabasis has met its obligations under these agreements. As of September 30, 2009, \$0.4 million in severance and other separation benefit costs were accrued in connection with the separation of Metabasis' former chief executive officer. In October 2009, the Company discontinued the employment of certain executive officers, entitling them to severance benefits, including continuation of salary and certain other benefits, of approximately \$1.3 million.

As part of the release agreement entered into with employees associated with the May 2009 restructuring, additional severance benefits will be paid if Metabasis reaches certain business development milestones between

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the date of the release agreement and May 26, 2010. If Metabasis reaches one milestone, it will pay approximately \$0.6 million of additional severance benefits. If Metabasis reaches both the first and second milestones, it will pay an incremental \$0.5 million of severance benefits for a total of \$1.1 million in additional severance benefits.

As part of the consideration for the Termination Agreement's early termination of the Lease Agreement, Metabasis agreed to pay up to an additional \$1.5 million to the Owner to be paid as 35% of the gross revenues earned by Metabasis from licenses, collaboration arrangements or sales of its existing pipeline of therapeutic programs entered into or effected during the period commencing July 1, 2009 and ending September 30, 2013, provided that the proceeds from these revenue generating events have been received by Metabasis.

Metabasis has no other material contractual obligations that are not fully recorded on its balance sheets or disclosed in the notes to its financial statements. Metabasis has no off-balance sheet arrangements as defined in Securities and Exchange Commission Regulation S-K 303(a)(4)(ii).

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QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT METABASIS MARKET RISK

Metabasis' exposure to market risk for changes in interest rates relates primarily to the increase or decrease in the amount of interest income it can earn on its investment portfolio. Its risk associated with fluctuating interest income is limited to its investments in interest rate sensitive financial instruments. Under its current policies, Metabasis does not use interest rate derivative instruments to manage this exposure to interest rate changes. Metabasis seeks to ensure the safety and preservation of its invested principal by limiting default risk, market risk, and reinvestment risk. Metabasis mitigates default risk by investing in short-term investment grade securities. Metabasis does not invest in auction rate securities. A 100 basis point increase or decrease in interest rates would not materially increase or decrease Metabasis' current investment balance or return. While changes in its interest rates may affect the fair value of Metabasis' investment portfolio, any gains or losses are not recognized in its statement of operations until the investment is sold or if a reduction in fair value is determined to be a permanent impairment.

Metabasis does not have any foreign currency or other derivative financial instruments. Metabasis' long-term capital lease obligations bear interest at fixed rates and therefore it does not have significant market risk exposure with respect to these obligations.

Table of Contents**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS OF METABASIS**

The following table provides information regarding the beneficial ownership of Metabasis common stock as of October 23, 2009 by: (i) each of Metabasis directors, (ii) each of Metabasis 2008 named executive officers, (iii) all of Metabasis current directors and executive officers as a group, and (iv) each person, or group of affiliated persons, known by Metabasis to beneficially own more than 5% of Metabasis common stock. The table is based upon information supplied by Metabasis officers, directors and principal stockholders and a review of Schedules 13D and 13G, if any, filed with the SEC. Unless otherwise indicated in the footnotes to the table and subject to community property laws where applicable, Metabasis believes that each of the stockholders named in the table has sole voting and investment power with respect to the shares indicated as beneficially owned.

Applicable percentages are based on 35,157,359 shares outstanding on October 23, 2009, adjusted as required by rules promulgated by the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of stock options or warrants that are exercisable on or within 60 days after October 23, 2009. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

Notwithstanding the foregoing, the information provided as to Wellington Management Company, LLP in the table and footnote 7 thereto has been updated to reflect information contained in the amended Schedule 13G filed by Wellington Management Company, LLP with the SEC on December 10, 2009.

Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
MPM Capital L.P. and its affiliates ⁽²⁾ 200 Clarendon Street, 54 th Floor Boston, Massachusetts 02116	4,885,263	13.9%
InterWest Management Partners VII, LLC and its affiliates ⁽³⁾ 2710 Sand Hill Road, Second Floor Menlo Park, California 94025	4,272,362	12.0%
Credit Suisse ⁽⁴⁾ Eleven Madison Avenue New York, New York 10010	3,946,307	11.2%
Biotechnology Value Fund and its affiliates ⁽⁵⁾ 900 North Michigan Avenue, Suite 1100 Chicago, Illinois, 60611	2,471,600	7.0%
Felix J. Baker, Julian C. Baker and their affiliates ⁽⁶⁾ 667 Madison Avenue New York, NY 10065	2,361,992	6.7%
Sicor Inc. 19 Hughes Irvine, CA 92618-1902	2,231,296	6.3%
Wellington Management Company, LLP ⁽⁷⁾ 75 State Street Boston, Massachusetts 02109	0	*
Luke B. Evnin, Ph.D. ⁽²⁾⁽⁸⁾	4,949,430	14.0%
Arnold L. Oronsky, Ph.D. ⁽³⁾⁽⁹⁾	4,336,529	12.2%
Paul K. Laikind, Ph.D. ⁽¹⁰⁾	1,175,740	3.3%
Mark D. Erion, Ph.D. ⁽¹¹⁾	909,924	2.6%
David F. Hale ⁽¹²⁾	278,820	*

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Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
Edgardo Baracchini, Ph.D., M.B.A. ⁽¹³⁾	303,837	*
Daniel D. Burgess, M.B.A. ⁽¹⁴⁾	64,167	*
William R. Rohn ⁽¹⁵⁾	56,667	*
George F. Schreiner, M.D., Ph.D. ⁽¹⁶⁾	30,834	*
Elizabeth Stoner, M.D. ⁽¹⁷⁾	18,681	*
Tran B. Nguyen, M.B.A. ⁽¹⁸⁾	0	*
All directors and officers as a group (11 persons) ⁽¹⁹⁾	12,124,629	32.7%

- (1) Except as otherwise noted above, the address for each person or entity listed in the table is c/o Metabasis Therapeutics, Inc., 11119 North Torrey Pines Road, La Jolla, CA 92037.
- (2) Based solely upon information provided to Metabasis by MPM Capital L.P. in October 2009. Includes 357,666 shares held by MPM BioVentures II, L.P., 3,241,318 shares held by MPM BioVentures II-QP, L.P., 1,141,113 shares held by MPM BioVentures GmbH & Co. Parallel- Beteiligungs KG and 74,628 shares held by MPM Asset Management Investors 2000B LLC. Also includes 70,538 shares MPM BioVentures II, L.P., MPM BioVentures II-QP, L.P., MPM BioVentures GmbH & Co. Parallel- Beteiligungs KG and MPM Asset Management Investors 2000 B LLC have the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of warrants. MPM Capital L.P. is a direct or indirect parent and/or control person of MPM Asset Management II LLC, funds managed or advised by it (including MPM BioVentures II, L.P., MPM BioVentures II-QP, L.P., MPM BioVentures GmbH & Co. Parallel-Beteiligungs KG, and MPM Asset Management Investors 2000B LLC) and the general partners of such funds, and may be deemed to beneficially hold the securities owned by such entities. Dr. Evnin may be deemed to be a control person of MPM Capital L.P. as a result of his interest in Medical Portfolio Management LLC, the general partner of MPM Capital L.P. Dr. Evnin disclaims beneficial ownership of these shares except to the extent of his pecuniary interest in these entities.
- (3) Based solely upon information provided to Metabasis by InterWest Partners in October 2009. Includes 3,717,282 shares held by InterWest Partners VII, L.P., 177,970 shares held by InterWest Investors VII, L.P. and 50,000 shares held by Harvey B. Cash, a managing director of InterWest Management Partners VII, LLC, the general partner of InterWest Partners VII, L.P. and InterWest Investors VII, L.P. Also includes 327,110 shares InterWest Partners VII, L.P. and InterWest Investors VII, L.P. have the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of warrants. Dr. Oronsky is a managing director of InterWest Management Partners VII, LLC. Dr. Oronsky disclaims beneficial ownership of these shares except to the extent of his pecuniary interest in these entities. Harvey B. Cash maintains sole voting power of the 50,000 shares held by him.
- (4) Based upon information contained in the Schedule 13G filed with the SEC on February 18, 2009. Includes 3,863,423 shares held by Sprout Capital IX, L.P., DLJ Capital Corporation, Sprout IX Plan Investors, L.P., Sprout Entrepreneurs Fund, L.P. and Credit Suisse Securities USA, L.L.C. Includes 82,884 shares Sprout Capital IX, L.P. and its affiliates have the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of warrants.
- (5) Based solely upon information contained in the Schedule 13G filed with the SEC on February 13, 2009. Includes 1,301,000 shares held by BVF Investments, L.L.C., 524,500 shares held by Biotechnology Value Fund, L.P., 363,000 shares held by Biotechnology Value Fund II, L.P. and 134,000 shares held by Investment 10, L.L.C. Also includes 149,100 shares BVF Investments, L.L.C., Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P. and Investment 10, L.L.C. have the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of warrants.
- (6) Based solely upon information contained in the Schedule 13G filed with the SEC on February 17, 2009. Includes 2,250,318 shares held by Baker Brothers Life Sciences, L.P., 667, L.P., Baker Bros. Investments II, L.P., FBB Associates, 14159, L.P. and Baker/Tisch

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Investments, L.P. Also includes 111,674 shares Felix J. Baker and Julian C. Baker and their affiliates have the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of warrants. Felix J. Baker and Julian C. Baker maintain shared voting and dispositive power over the shares.

- (7) Based solely upon information contained in the amended Schedule 13G filed with the SEC on December 10, 2009.
- (8) Includes 64,167 shares that Dr. Evinin has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.

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- (9) Includes 64,167 shares that Dr. Oronsky has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (10) Includes 468,520 shares that Dr. Laikind has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options. Also includes 3,662 shares purchased through participation in Metabasis 2004 Employee Stock Purchase Plan, or the 2004 ESPP.
- (11) Includes 517,408 shares held by the Erion Family Trust, 49,382 shares held by each of the Mark Erion 2002 Grantor Retained Annuity Trust and the Sonja Erion 2002 Grantor Retained Annuity Trust, and 15,089 shares held by each of the Derek Mark Erion 2003 Irrevocable Trust, the Renske Marie Erion 2003 Irrevocable Trust and the Karel Arnt Erion 2003 Irrevocable Trust. Also includes 238,458 shares that Dr. Erion has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options. Also includes 10,027 shares purchased through participation in the 2004 ESPP.
- (12) Includes 47,226 shares held by the Hale Family Trust dated February 10, 1986 and 13,111 shares held by Hale BioPharma Ventures, L.L.C. Also includes 3,000 shares Hale BioPharma Ventures, L.L.C. has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of warrants. Also includes 215,483 shares that Mr. Hale has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (13) Includes 42,250 shares held by the Edgardo and Suzanne Baracchini Living Trust Dated, April 22, 1998. Also includes 3,039 shares held by the Gabriella Baracchini Irrev. Trust and 3,038 shares held by the Alexander Baracchini Irrev. Trust. Also includes 255,510 shares that Dr. Baracchini has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (14) Represents 64,167 shares that Mr. Burgess has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (15) Represents 56,667 shares that Mr. Rohn has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (16) Represents 30,834 shares that Dr. Schreiner has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (17) Represents 18,681 shares that Dr. Stoner has the right to acquire from Metabasis within 60 days after October 23, 2009 pursuant to the exercise of stock options.
- (18) Mr. Nguyen has no stock options that are vested within 60 days after October 23, 2009.
- (19) Includes 1,476,654 shares pursuant to the exercise of stock options within 60 days after October 23, 2009 and 400,648 shares pursuant to the exercise of warrants within 60 days after October 23, 2009.
- In addition to the shares identified in the table and notes above as being beneficially owned by certain persons because they underlie stock options which are exercisable on or within 60 days after October 23, 2009, such persons hold further stock options which would become exercisable on an accelerated basis immediately before the effective time of the merger. The number of additional shares subject to such further stock options is as follows: Mr. Baracchini, 136,424 shares; Mr. Burgess, 5,833 shares; Mr. Erion, 267,500 shares; Mr. Evnin, 5,833 shares; Mr. Hale, 105,833 shares; Mr. Laikind, 2,917 shares; Mr. Nguyen, 250,000 shares; Mr. Oronsky, 5,833 shares; Mr. Rohn, 5,833 shares; Mr. Schreiner, 9,166 shares; and Ms. Stoner, 21,319 shares.

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UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

The following unaudited pro forma condensed combined balance sheet is based on historical unaudited balance sheets of Ligand and Metabasis and has been prepared to reflect the merger as if it had been completed on the balance sheet date of September 30, 2009. The following unaudited pro forma condensed combined statements of operations give effect to the merger as if it had taken place on January 1, 2008, the beginning of the earliest period presented, in accordance with SEC guidance.

The merger will be accounted for under the acquisition method of accounting in accordance with ASC Topic 805, Business Combinations, as amended. Under the purchase method of accounting, the total estimated purchase price, calculated as described in Note 2 to these unaudited pro forma condensed combined financial statements, is allocated to the net tangible and intangible assets of Metabasis based on their estimated fair values. Management has made a preliminary allocation of the estimated purchase price to the tangible and intangible assets acquired and liabilities assumed based on various preliminary estimates. A final determination of these estimated fair values, which cannot be made prior to the completion of the merger, will be based on the actual net tangible and intangible assets of Metabasis that exist as of the date of completion of the merger, and upon the final purchase price. Differences between the preliminary and final purchase price allocations could have a material impact on the unaudited pro forma condensed combined financial information and Ligand's future results of operations and financial position.

The unaudited pro forma condensed combined financial information is based on the estimates and assumptions which are preliminary and have been made solely for purposes of developing such pro forma information. They do not include liabilities that may result from integration activities which are not presently estimable. The management of Ligand and Metabasis are in the process of making these assessments, and estimates of these costs are not currently known. The unaudited pro forma condensed combined financial statements are not necessarily an indication of the results that would have been achieved had the merger been completed as of the dates indicated or that may be achieved in the future.

Under the terms of the Merger Agreement, each share of Metabasis common stock will be converted into the right to receive a pro rata portion of a total cash payment equal to \$3,207,500 less Metabasis' estimated net liabilities (as defined in the merger agreement) at closing and also less \$150,000 to be deposited in the Stockholders' Representative's fund. In addition, each Metabasis stockholder will receive, for each share of Metabasis stock held, (i) one Roche CVR, (ii) one TR Beta CVR, (iii) one Glucagon CVR and (iv) one General CVR. At the closing of the merger, Ligand, Metabasis, the Stockholders' Representative and a rights agent will also enter into four contingent value rights agreements, or CVR agreements, in the forms attached to this proxy statement/prospectus as *Annex B*, *Annex C*, *Annex D* and *Annex E*. The CVR agreements set forth the rights that former Metabasis stockholders will have with respect to each CVR to be held by them after the closing of the merger. Each Metabasis stockholder will receive one CVR under each of the four CVR agreements for each share of Metabasis stock held. The CVRs will not be listed on any securities exchange but will be generally tradable, subject to certain procedures.

This unaudited pro forma condensed combined financial information should be read in conjunction with the historical consolidated financial statements and notes thereto of Ligand and Metabasis and other financial information pertaining to Ligand and Metabasis, including Management's Discussion and Analysis of Financial Condition and Results of Operations and Risk Factors incorporated by reference or included herein.

Table of Contents**Pro Forma Condensed Combined****Balance Sheet**

As of September 30, 2009

(Amounts in thousands, except share data)

	Ligand	Metabasis	Pro Forma Adjustments	Pro Forma Combined
ASSETS				
Current assets:				
Cash and cash equivalents	\$ 5,160	\$ 2,215	\$ (3,418)a	\$ 3,957
Short-term investments	39,033			39,033
Accounts receivable, net	2,110			2,110
Assets held for sale		867		867
Current portion of co-promote termination payments receivable	11,925			11,925
Other current assets	1,667	1,002		2,669
Total current assets	59,895	4,084	(3,418)	60,561
Restricted cash and investments	1,341			1,341
Property and equipment, net	9,893			9,893
Long-term portion of co-promote termination payments receivable	45,374			45,374
Goodwill and other identifiable intangible assets	482		28,120 b	28,602
Other assets	101			101
Total assets	\$ 117,086	\$ 4,084	\$ 24,702	\$ 145,872
LIABILITIES AND STOCKHOLDERS EQUITY				
Current liabilities:				
Accounts payable and accrued expenses	\$ 26,790	\$ 1,205	\$	\$ 27,995
Allowance for loss on returns, rebates and chargebacks related to discontinued operations	354			354
Current portion of accrued litigation settlement costs	1,180			1,180
Current portion of deferred gain	1,702			1,702
Current portion of co-promote termination liability	11,925			11,925
Current portion of equipment financing obligations	172	35		207
Current portion of deferred revenue	10,924			10,924
Total current liabilities	53,047	1,240		54,287
Long-term portion of co-promote termination liability	45,374			45,374
Long-term portion of deferred revenue	4,866			4,866
Long-term portion of deferred gain	2,128			2,128
Other long-term liabilities	12,824		14,573 b	27,397
Total liabilities	118,239	1,240	14,573	134,052
Commitments and contingencies				
Common stock subject to conditional redemption; 665,230 shares issued and outstanding at September 30, 2009	8,344			8,344
Stockholders' equity:				
Common stock	119	35	(35)c	119
Additional paid-in capital	716,785	197,654	(197,654)d	716,785

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Accumulated other comprehensive income	317			317
Accumulated deficit	(684,584)	(194,845)	207,818 e	(671,611)
Treasury stock, at cost; 6,607,905 shares	(42,134)			(42,134)
Total stockholders' equity (deficit)	(9,497)	2,844	10,129	3,476
Total liabilities and stockholders' equity	\$ 117,086	\$ 4,084	\$ 24,702	\$ 145,872

See Notes to Unaudited Pro Forma Condensed Combined Financial Information.

Table of Contents**Pro Forma Condensed Combined****Statement of Operations****For the Nine Months Ended September 30, 2009****(Amounts in thousands, except share and per share data)**

	Ligand	Metabasis	Pro Forma Adjustments	Pro Forma Combined
Revenues:				
Royalties	\$ 6,386	\$	\$	\$ 6,386
Collaborative research and development and other revenues	18,577	16,484		35,061
Total revenues	24,963	16,484		41,447
Operating costs and expenses:				
Research and development	29,744	11,240		40,984
General and administrative	12,190	7,488		19,678
Write-off of acquired in-process research and development	442			442
Gain on sale of assets held for sale		(821)		(821)
Lease termination costs	15,235	554		15,789
Total operating costs and expenses	57,611	18,461		76,072
Accretion of deferred gain on sale leaseback	(21,426)			(21,426)
Loss from operations	(11,222)	(1,977)		(13,199)
Other income (expense):				
Interest income	436	40	(51)f	425
Interest expense	(257)	(789)		(1,046)
Other, net	137	207		344
Total other income (expense), net	316	(542)	(51)	(277)
Loss before income taxes	(10,906)	(2,519)	(51)	(13,476)
Income tax benefit				
Loss from continuing operations	\$ (10,906)	\$ (2,519)	\$ (51)	\$ (13,476)
Basic and diluted per share amounts:				
Loss from continuing operations	\$ (0.09)	\$ (0.07)	\$	\$ (0.12)
Weighted average number of common shares	113,102,455	35,154,000	(35,154,000)g	113,102,455

See Notes to Unaudited Pro Forma Condensed Combined Financial Information.

Table of Contents**Pro Forma Condensed Combined****Statement of Operations****For the Year Ended December 31, 2008****(Amounts in thousands, except share and per share data)**

	Ligand	Metabasis	Pro Forma Adjustments	Pro Forma Combined
Revenues:				
Royalties	\$ 20,315	\$	\$	\$ 20,315
Collaborative research and development and other revenues	7,000	4,810		11,810
Total revenues	27,315	4,810		32,125
Operating costs and expenses:				
Research and development	30,770	36,356		67,126
General and administrative	23,785	10,751		34,536
Write-off of acquired in-process research and development	72,000			72,000
Total operating costs and expenses	126,555	47,107		173,662
Accretion of deferred gain on sale leaseback	(1,964)			(1,964)
Loss from operations	(97,276)	(42,297)		(139,573)
Other income (expense):				
Interest income	2,161	916	(68)f	3,009
Interest expense	(202)	(933)		(1,135)
Other, net	(2,198)			(2,198)
Total other income (expense), net	(239)	(17)	(68)	(324)
Loss before income taxes	(97,515)	(42,314)	(68)	(139,897)
Income tax benefit	55			55
Loss from continuing operations	\$ (97,460)	\$ (42,314)	\$ (68)	\$ (139,842)
Basic and diluted per share amounts:				
Loss from continuing operations	\$ (1.02)	\$ (1.25)	\$	\$ (1.46)
Weighted average number of common shares	95,505,421	33,779,000	(33,779,000)g	95,505,421

See Notes to Unaudited Pro Forma Condensed Combined Financial Information.

Table of Contents**Notes to Unaudited Pro Forma Condensed****Combined Financial Statements****(1) Description of Transaction**

On October 26, 2009, Ligand and Merger Sub entered into a merger agreement with Metabasis, which was amended on November 25, 2009. Upon completion of the merger, if the merger agreement is adopted by Metabasis stockholders and the other conditions to the merger are satisfied or waived, each share of Metabasis common stock will be converted into the right to receive a pro rata portion of a total cash payment equal to \$3,207,500 less Metabasis estimated net liabilities (as defined in the merger agreement) at closing and also less \$150,000 to be deposited in the Stockholders Representative's fund. In addition, each Metabasis stockholder will receive, for each share of Metabasis stock held, (i) one Roche CVR, (ii) one TR Beta CVR, (iii) one Glucagon CVR and (iv) one General CVR.

At the closing of the merger, Ligand, Metabasis, the Stockholders Representative and a rights agent will also enter into four contingent value rights agreements, or CVR agreements, in the forms attached to this proxy statement/prospectus as *Annex B*, *Annex C*, *Annex D* and *Annex E*. The CVR agreements set forth the rights that former Metabasis stockholders will have with respect to each CVR to be held by them after the closing of the merger. Each Metabasis stockholder will receive one CVR under each of the four CVR agreements for each share of Metabasis stock held. The CVRs will not be listed on any securities exchange but will be generally tradable, subject to certain procedures.

Roche CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Roche CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) 65% of any milestone payments received by Ligand or Metabasis after October 1, 2009 under a collaboration and license agreement with Hoffmann-La Roche Inc. and its affiliates (the Roche Agreement); (ii) 68% of any royalty payments received by Ligand or Metabasis after October 1, 2009 under the Roche Agreement; (iii) 65% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis after October 1, 2009 in connection with a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement); and (iv) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

TR Beta CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the TR Beta CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program (as defined in the TR Beta CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the seventh anniversary of the merger and before the eighth anniversary of the merger, or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the TR Beta Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

Table of Contents**Notes to Unaudited Pro Forma Condensed****Combined Financial Statements (Continued)**

Glucagon CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Glucagon CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program (as defined in the Glucagon CVR agreement) before the sixth anniversary of the merger, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the sixth anniversary of the merger and before the seventh anniversary of the merger, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the seventh anniversary of the merger and before the eighth anniversary of the merger or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the Glucagon Program after the eighth anniversary of the merger and before the tenth anniversary of the merger; and (ii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

General CVR. Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the General CVRs will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts: (i) the amount of any shortfall of Ligand's interim or total \$8 million guaranteed funding obligations under the merger agreement; (ii) (a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including a licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FB Pase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program (each as defined in the General CVR agreement), if Ligand has by the time of the transaction not made research and/or development investments of at least \$700,000 on such program or (b) 25% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each transaction, including a licensing or sale transaction, with respect to other drug research and/or development programs conducted by Metabasis before the merger, including the DGAT-1 Program, FB Pase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program, if Ligand has by the time of the transaction made research and/or development investments of at least \$700,000 on such program; (iii) (a) 90% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand or Metabasis in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program (as defined in the General CVR agreement) that occur after October 1, 2009 and within six months after the merger, (b) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand or Metabasis after October 1, 2009) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the sixth month anniversary of the merger and before the two year anniversary of the merger or (c) 10% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions, including licensing or sale transactions, with respect to the 7133 Program that occur after the two year anniversary of the merger and before the ten year anniversary of the merger; (iv) 60% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with (a) any sale of certain shares of PeriCor Therapeutics, Inc. stock held by Metabasis, (b) any milestone payments or royalty payments payable directly to Ligand or Metabasis pursuant to certain PeriCor Agreements (as defined in the General CVR agreement) or (c) any full or partial sale or transfer

Table of Contents**Notes to Unaudited Pro Forma Condensed****Combined Financial Statements (Continued)**

of any rights to receive such milestone payments or royalty payments or all or any portion of a drug candidate or technology from the drug development program licensed pursuant to certain PeriCor Agreements; (v) 100% of the cash received by Ligand upon a cash exercise of any of the Metabasis warrants outstanding as of the date of the merger; (vi) 50% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with any sale of Metabasis QM/MM Technology (as defined in the General CVR agreement); and (vii) a proportionate share of any amounts finally distributed to the holders of CVRs from the Stockholders Representative fund.

(2) Purchase Price

Total estimated purchase price is summarized as follows (in thousands):

Estimated cash payment to Metabasis stockholders	\$ 1,818
Estimated fair value of Contingent Value Rights	14,573
Total preliminary estimated purchase price	\$ 16,391

For purposes of the preliminary purchase price allocation, the estimated fair value of the Roche, TR Beta, Glucagon and General Contingent Value Rights is based upon the total estimated fair value of Metabasis of approximately \$30 million, which is consistent with Metabasis' market value as of October 26, 2009 (the last full trading day before the public announcement of the merger agreement). For purposes of estimating the preliminary purchase price, Ligand's management assumed that an aggregate of 50% of the total identifiable intangible assets' estimated fair value would be paid out to Metabasis stockholders under the provisions of the Contingent Value Rights agreements. As of November 23, 2009, the market value of the Metabasis common stock had decreased significantly to approximately \$13 million. The decrease could indicate a significantly lower value of the identifiable intangible assets and a corresponding reduction in purchase price. For example, based on assumptions used by Ligand's management, the preliminary estimated purchase price on November 23, 2009 would have been \$7.1 million, resulting in estimated fair value of the identifiable intangible assets of \$9.5 million, Contingent Value Rights of \$5.3 million and gain on acquisition of \$5.3 million.

For purposes of this pro forma analysis, the above estimated purchase price has been allocated based on a preliminary estimate of the fair value of assets acquired and liabilities assumed:

	(in thousands)
Assets Acquired:	
Cash & cash equivalents	\$ 2,215
Assets held for sale	867
Other assets	1,002
Goodwill and other identifiable intangible assets	28,120
Total Assets	32,204
Liabilities Assumed:	
Accounts payable & accrued liabilities	1,205
Payable to Metabasis stockholders	14,573
Current portion of capital lease obligations	35
Total Liabilities	15,813

Total Purchase Price

\$ 16,391

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**Notes to Unaudited Pro Forma Condensed
Combined Financial Statements (Continued)**

(3) Pro Forma Adjustments

Adjustments included in the column under the heading Pro Forma Adjustments are related to the following (in thousands, except share information):

- (a) Cash and cash equivalents adjustments consist of the following:

Estimated cash payment to Metabasis stockholders	\$ (1,818)
Estimated Ligand transaction fees	(400)
Estimated Metabasis transaction fees	(1,200)
Total	\$ (3,418)

- (b) To record the estimated fair value of goodwill and other identifiable intangible assets, which is primarily related to Metabasis internal and partnered early stage product candidates. For purposes of the preliminary purchase price allocation, goodwill and other identifiable intangible assets are combined for this presentation which includes the estimated fair value of the related liability for the CVR agreements and resulting gain on acquisition. No amortizable intangible assets have been identified in the preliminary analysis. For purposes of estimating the preliminary purchase price, Ligand's management assumed that an aggregate of 50% of the total identifiable intangible assets' estimated fair value would be paid out to Metabasis stockholders under the provisions of the Contingent Value Rights agreements based on various percentage payouts included in the individual Contingent Value Rights agreements. An increase in the estimated aggregate percentage paid to Metabasis stockholders would result in an increase to the estimated liability for the CVR agreements and a decrease to the gain on acquisition. A decrease in the estimated aggregate percentage paid to Metabasis stockholders would result in a decrease to the estimated liability for the CVR agreements and an increase to the gain on acquisition. The final valuation will be performed as of the date of completion of the merger. Differences between the preliminary and final valuation could have a material impact on the accompanying unaudited pro forma condensed combined financial statement information and Ligand's future results of operations and financial position.

- (c) To record the following adjustments to common stock:

Elimination of Metabasis common stock	\$ (35)
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- (d) To record the following adjustments to additional paid-in capital:

Elimination of Metabasis paid-in capital	\$ (197,654)
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(e) To record the following adjustments to accumulated deficit:

Elimination of Metabasis accumulated deficit	\$ 194,845
Adjustment for transaction related fees	(1,600)
Gain on acquisition	14,573
 Total	 \$ 207,818

The gain on acquisition is a result of the preliminary purchase price allocation. As of November 23, 2009, the market value of the Metabasis capital stock had decreased significantly to approximately \$13 million. The decrease could indicate a significantly lower value of the identifiable intangible assets and a corresponding reduction in the purchase price.

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**Notes to Unaudited Pro Forma Condensed
Combined Financial Statements (Continued)**

- (f) To eliminate interest income foregone on net cash and cash equivalents used to pay transaction related costs.

- (g) For purposes of these unaudited pro forma condensed combined financial statements, the unaudited pro forma combined basis and diluted net income per share amounts are based on the historical weighted average number of shares of Ligand common stock outstanding:

For the nine months ended September 30, 2009:

Eliminate Metabasis common stock	(35,154,000)
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For the twelve months ended December 31, 2008:

Eliminate Metabasis common stock	(33,779,000)
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EXPERTS

The consolidated financial statements and schedule and management's report on the effectiveness of internal control over financial reporting of Ligand Pharmaceuticals Incorporated as of December 31, 2008 appearing in Ligand's annual report on Form 10-K for the year ended December 31, 2008 incorporated by reference in this proxy statement/prospectus have been audited by Grant Thornton LLP, an independent registered public accounting firm, to the extent and for the periods set forth in their reports incorporated herein by reference, and are included in reliance upon such reports given upon the authority of said firm as experts in auditing and accounting.

The consolidated financial statements and schedule and management's report on the effectiveness of internal control over financial reporting of Ligand Pharmaceuticals Incorporated as of December 31, 2007 incorporated by reference in this Amendment No. 1 to S-4 Registration Statement and Proxy Statement have been audited by BDO Seidman, LLP, an independent registered public accounting firm, to the extent and for the periods set forth in their reports incorporated herein by reference, and are included in reliance upon such reports given upon the authority of said firm as experts in auditing and accounting.

The financial statements of Metabasis Therapeutics, Inc. at December 31, 2007 and 2008, and for each of the three years in the period ended December 31, 2008 included in this Proxy Statement, which is 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 (which contains an explanatory paragraph describing conditions that raise substantial doubt about Metabasis Therapeutics, Inc.'s ability to continue as a going concern as described in Note 2 to the financial statements), appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

LEGAL MATTERS

The legality and binding effect of the CVRs offered hereby are being passed upon for Ligand by Stradling Yocca Carlson & Rauth, San Diego, California.

WHERE YOU CAN FIND MORE INFORMATION

Ligand and Metabasis each file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any reports, statements or other information that the companies file 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. The SEC maintains an internet site that contains annual, quarterly and current reports, proxy and information statements and other information that issuers, including Ligand and Metabasis, file electronically with the SEC. These electronic SEC filings are available to the public at the SEC's Internet site, www.sec.gov. You can also review Ligand's SEC filings on its web site at <http://www.ligand.com> and Metabasis' SEC filings on its web site at <http://www.mbasis.com>. Information included on Ligand's or Metabasis' web site is not a part of this proxy statement/prospectus.

Ligand has filed a registration statement on Form S-4 to register with the SEC the offering and sale of the CVRs to Metabasis stockholders in the merger. You should rely only on the information contained in this proxy statement/prospectus or on information to which Metabasis has incorporated by reference into this proxy statement/prospectus. This proxy statement/prospectus does not contain all of the information set forth in the registration statement because certain parts of the registration statement are omitted as provided by the rules and regulations of the SEC. You may inspect and copy the registration statement at the SEC's reference room or web addresses listed above.

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INCORPORATION BY REFERENCE

The SEC allows Ligand to incorporate by reference information into this proxy statement/prospectus, which means that Ligand can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this proxy statement/prospectus, except for any information superseded by information contained directly in this proxy statement/prospectus. This proxy statement/prospectus incorporates by reference the documents described below that Ligand has previously filed with the SEC, as well as the annexes to this proxy statement/prospectus. These documents contain important information about Ligand and the financial condition of Ligand.

The following documents listed below that Ligand has previously filed with the SEC are incorporated by reference:

the description of Ligand's common stock contained in Ligand's Registration Statement on Form 8-A filed on November 21, 1994, and any amendment or report filed for the purpose of updating such description;

the description of Ligand's preferred shares purchase rights contained in Ligand's Registration Statement on Form 8-A filed on October 17, 2006, and any amendment or report filed for the purpose of updating such description;

Ligand's definitive proxy statement/prospectus on Schedule 14A filed with the SEC on April 29, 2009;

Ligand's annual report on Form 10-K for the fiscal year ended December 31, 2008 filed with the SEC on March 16, 2009;

Ligand's quarterly report on Form 10-Q for the fiscal quarter ended March 31, 2009 filed with the SEC on May 11, 2009;

Ligand's quarterly report on Form 10-Q for the fiscal quarter ended June 30, 2009 filed with the SEC on August 4, 2009;

Ligand's quarterly report on Form 10-Q for the fiscal quarter ended September 30, 2009 filed with the SEC on November 9, 2009;

Ligand's current reports on Form 8-K filed with the SEC on January 26, 2009, February 6, 2009, February 18, 2009, February 20, 2009, March 27, 2009, April 16, 2009, April 22, 2009, June 1, 2009, June 24, 2009, August 4, 2009, August 11, 2009, August 24, 2009, September 10, 2009, October 1, 2009, October 28, 2009, November 6, 2009, November 9, 2009, November 19, 2009, November 24, 2009, December 1, 2009, December 15, 2009, December 17, 2009 and December 21, 2009; and

Ligand's current report on Form 8-K/A filed with the SEC on February 25, 2009.

All documents that Ligand files pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this proxy statement/prospectus and before the later of the date of Metabasis' special meeting or the date on which the offering of shares of Ligand common stock under this proxy statement/prospectus is completed or terminated shall also be deemed to be incorporated by reference in this proxy statement/prospectus. Notwithstanding anything herein to the contrary, any information furnished under Item 2.02 or Item 7.01 of Ligand's current reports on Form 8-K and any other information which is furnished, but not filed with the SEC, is not incorporated herein by reference.

Ligand has supplied all information contained in this proxy statement/prospectus relating to Ligand and Merger Sub, and Metabasis has supplied all information contained in this proxy statement/prospectus relating to Metabasis.

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You may obtain any of the documents incorporated by reference from the SEC's public reference room or the SEC's Internet web site described above in the section entitled "Where You Can Find More Information." Documents incorporated by reference in this proxy statement/prospectus are also available from Ligand without charge, excluding all exhibits unless specifically incorporated by reference in such documents. Stockholders may obtain documents incorporated by reference in this proxy statement/prospectus by requesting them in writing or by telephone from Ligand at the following address:

Ligand Pharmaceuticals Incorporated

Attention: Investor Relations

11085 North Torrey Pines Road

Suite 300

La Jolla, California 92037

Telephone: (858) 550-7500

In order to receive timely delivery of the documents, you must make your request no later than January 17, 2009. If you request any incorporated documents, Ligand will strive to mail them to you by first class mail, or another equally prompt means, within one business day of receipt of your request.

You should rely only on the information contained in this proxy statement/prospectus to vote your shares at the special meeting of Metabasis stockholders. Neither Ligand nor Metabasis has authorized anyone to provide you with information that differs from that contained in this proxy statement/prospectus. This proxy statement/prospectus is dated December 22, 2009. You should not assume that the information contained in this proxy statement/prospectus is accurate as of any date other than that date, and neither the mailing of this proxy statement/prospectus to stockholders nor the issuance of shares of Ligand common stock and CVRs in the merger shall create any implication to the contrary.

This proxy statement/prospectus does not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this proxy statement/prospectus, or the solicitation of a proxy, in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer, solicitation of an offer or proxy solicitation in such jurisdiction.

Ligand Pharmaceuticals Incorporated's trademarks, trade names and service marks referenced in this proxy statement/prospectus include Ligand and ECLiPS. Metabasis Therapeutics, Inc.'s trademarks, trade names and service marks referenced in this proxy statement/prospectus include Metabasis and the Metabasis logo. All other trademarks, trade names or service marks are owned by their respective owners.

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METABASIS THERAPEUTICS, INC.

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METABASIS CONDENSED FINANCIAL STATEMENTS (UNAUDITED)

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders

Metabasis Therapeutics, Inc.

We have audited the accompanying balance sheets of Metabasis Therapeutics, Inc. as of December 31, 2008 and 2007, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2008. 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 financial position of Metabasis Therapeutics, Inc. at December 31, 2008 and 2007, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2008, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that Metabasis Therapeutics, Inc. will continue as a going concern. As more fully described in Note 2, the Company's existing working capital is not sufficient to meet its cash requirements to fund planned operating expenses and working capital requirements through December 31, 2009 without additional sources of cash. This condition raises substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to this matter is also described in Note 2. The most recent year financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Metabasis Therapeutics, Inc.'s internal control over financial reporting as of December 31, 2008, 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 24, 2009 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

San Diego, California

March 27, 2009

Table of Contents**METABASIS THERAPEUTICS, INC.****BALANCE SHEETS**

(in thousands, except par value data)

	December 31, 2008	December 31, 2007
Assets		
Current assets:		
Cash and cash equivalents	\$ 12,599	\$ 14,141
Securities available-for-sale	9,000	28,297
Prepays and other current assets	1,091	1,157
Total current assets	22,690	43,595
Property and equipment, net	4,779	6,356
Other assets	273	172
Total assets	\$ 27,742	\$ 50,123
Liabilities and stockholders equity		
Current liabilities:		
Accounts payable	\$ 93	\$ 802
Accrued compensation	2,439	3,181
Accrued liabilities	1,798	4,132
Deferred revenue, current portion	5,652	1,321
Current portion of long-term debt	3,890	2,068
Current portion of capital lease obligations	26	23
Total current liabilities	13,898	11,527
Deferred revenue, net of current portion	2,499	
Deferred rent	3,079	2,595
Long-term debt	4,658	3,845
Capital lease obligations, net of current portion	27	55
Other Long Term Liabilities	200	
Total liabilities	24,361	18,022
Stockholders equity:		
Preferred stock, \$0.001 par value; 5,000 shares authorized at December 31, 2008 and December 31, 2007, no shares issued or outstanding		
Common stock, \$0.001 par value; 100,000 shares authorized at December 31, 2008 and December 31, 2007; 35,152 and 30,754 shares issued and outstanding at December 31, 2008 and December 31, 2007, respectively	35	31
Additional paid-in capital	195,640	182,003
Accumulated deficit	(192,326)	(150,012)
Accumulated other comprehensive loss	32	79
Total stockholders equity	3,381	32,101
Total liabilities and stockholders equity	\$ 27,742	\$ 50,123

See accompanying notes.

Table of Contents**METABASIS THERAPEUTICS, INC.****STATEMENTS OF OPERATIONS****(in thousands, except per share data)**

	Years Ended December 31,		
	2008	2007	2006
Revenues:			
License fees	\$ 2,344	\$ 5,301	\$ 1,984
Sponsored research	2,466	3,398	2,210
Other revenue		320	192
Total revenues	4,810	9,019	4,386
Operating expenses:			
Research and development	36,356	40,915	29,945
General and administrative	10,751	12,442	11,250
Total operating expenses	47,107	53,357	41,195
Loss from operations	(42,297)	(44,338)	(36,809)
Other income (expense):			
Interest income	916	3,095	3,932
Interest expense	(933)	(556)	(391)
Total other (expense) income	(17)	2,539	3,541
Net loss	\$ (42,314)	\$ (41,799)	\$ (33,268)
Basic and diluted net loss per share	\$ (1.25)	\$ (1.37)	\$ (1.15)
Shares used to compute basic and diluted net loss per share	33,779	30,587	29,019

See accompanying notes.

Table of Contents**METABASIS THERAPEUTICS, INC.****STATEMENTS OF STOCKHOLDERS EQUITY**

(in thousands)

	Common Stock			Deferred Compensation	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders Equity
	Shares	Amount	Additional Paid-In Capital				
Balance at December 31, 2005	25,313	\$ 25	\$ 137,822	\$ (3,266)	\$ (74,945)	\$ (54)	\$ 59,582
Net loss					(33,268)		(33,268)
Unrealized gain on short-term investments						77	77
Net comprehensive loss							(33,191)
Issuance of common stock in registered direct offering, net of offering costs of \$2,696	4,938	5	37,299				37,304
Issuance of common stock for option exercises	44		95				95
Issuance of common stock pursuant to the Employee Stock Purchase Plan	198		603				603
Reclass of deferred compensation			(3,266)	3,266			
Stock-based compensation			3,745				3,745
Balance at December 31, 2006	30,493	\$ 30	\$ 176,298	\$	\$ (108,213)	\$ 23	\$ 68,138
Net loss					(41,799)		(41,799)
Unrealized gain on short-term investments						56	56
Net comprehensive loss							(41,743)
Issuance of common stock for option exercises	48		71				71
Issuance of common stock pursuant to the Employee Stock Purchase Plan	206	1	599				600
Exercise of series C preferred warrants	7						
Stock-based compensation			5,035				5,035
Balance at December 31, 2007	30,754	\$ 31	\$ 182,003	\$	\$ (150,012)	\$ 79	\$ 32,101
Net loss					(42,314)		(42,314)
Unrealized loss on short-term investments						(47)	(47)
Net comprehensive loss							(42,361)
Issuance of common stock for option exercises	12		10				10
Issuance of common stock pursuant to the Employee Stock Purchase Plan	215		169				169
Exercise of warrants pursuant to warrant exchange	1,686	2	3,613				3,615
Issuance of common stock pursuant to private placement	2,485	2	5,906				5,908
Stock-based compensation			3,939				3,939
Balance at December 31, 2008	35,152	\$ 35	\$ 195,640	\$	\$ (192,326)	\$ 32	\$ 3,381

See accompanying notes.

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Table of Contents**METABASIS THERAPEUTICS, INC.****STATEMENTS OF CASH FLOWS**

(in thousands)

	Years Ended December 31,		
	2008	2007	2006
Operating activities			
Net loss	\$ (42,314)	\$ (41,799)	\$ (33,268)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation	3,939	5,035	3,745
Depreciation and amortization	2,073	2,028	1,602
Deferred rent	484	1,029	1,236
Amortization of discount and premium on securities available-for-sale	(494)	(2,220)	(925)
Loss on disposal of assets	29	153	29
Change in operating assets and liabilities:			
Other current assets	66	333	679
Other assets	99	7	(27)
Deferred revenue	6,830	(3,501)	167
Accounts payable	(709)	(251)	(692)
Accrued compensation and other liabilities	(3,076)	2,803	118
Net cash flows used in operating activities	(33,073)	(36,383)	(27,336)
Investing activities			
Purchases of securities available-for-sale	(24,498)	(78,358)	(134,752)
Sales/maturities of securities available-for-sale	44,242	118,208	104,179
Purchases of property and equipment	(525)	(2,274)	(3,230)
Net cash flows provided by (used in) investing activities	19,219	37,576	(33,803)
Financing activities			
Issuance of common stock, net	9,702	671	38,002
Principal payments on debt and capital lease obligations	(2,390)	(1,965)	(1,486)
Proceeds received from debt and capital lease obligations	5,000	2,190	4,078
Net cash flows provided by financing activities	12,312	896	40,594
(Decrease) increase in cash and cash equivalents	(1,542)	2,089	(20,545)
Cash and cash equivalents at beginning of year	14,141	12,052	32,597
Cash and cash equivalents at end of period	\$ 12,599	\$ 14,141	\$ 12,052
Supplemental disclosure of cash flow information:			
Interest paid	\$ 933	\$ 556	\$ 405
Supplemental schedule of noncash investing and financing activities:			
Disposal of assets	\$ 26	\$ 4,563	\$
Net-share settlement of warrant	\$	\$ 56	\$
Unrealized (loss) gain on short-term investments	\$ (47)	\$ 56	\$ 77

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Debt issuance costs	\$ 200	\$	\$
Reclass of deferred compensation	\$	\$	\$ 3,266
Fair value of warrant issued in connection with the Committed Equity Financing Facility	\$	\$	\$ 1,098

See accompanying notes.

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS

1. Organization and Basis of Presentation

Metabasis Therapeutics, Inc. (Metabasis or the Company) is a biopharmaceutical company focused on the discovery development of novel drugs by applying our proprietary technologies, scientific expertise and unique capabilities for targeting the liver and liver pathways.

2. Going Concern

The Company has incurred significant net losses since inception and has relied on its ability to fund its operations through private equity financings, an initial public offering, private placements of common stock, a registered direct offering of common stock, proceeds from business collaborations and other traditional debt financings. Management expects operating losses and negative cash flows to continue for the foreseeable future as the Company incurs additional costs and expenses related to the continued development of its products. The Company's working capital will not be sufficient to fund its operations through December 31, 2009 without additional sources of cash. The funding of on-going operating expenses is dependent upon the Company's ability to generate significant additional funding through equity financings, attainment of milestones from existing collaboration agreements, entering into new strategic collaborations with respect to one or more of its metabolic disease assets and licensing or otherwise monetizing its hepatitis B or primary liver cancer programs. If the Company is unable to generate sufficient additional funding in a timely manner, it will be required to seek additional resources by pursuing other strategic alternatives including the merger with or sale of some or all of its assets to another company, or cease operations entirely. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements have been prepared on a going concern basis that contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The financial statements do not include adjustments to reflect the possible future effects on the recoverability and classification of recorded assets or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

3. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and highly liquid instruments with original maturities of three months or less when purchased.

Fair Value of Financial Instruments

In September 2006, the Financial Accounting Standards Board (the FASB) issued Statement of Financial Accounting Standards (SFAS) No. 157, *Fair Value Measurements* (SFAS No. 157). This statement provides a definition of fair value, establishes a hierarchy for measuring fair value in GAAP, and requires certain disclosures about fair values used in financial statements. This statement does not extend the use of fair value beyond what is currently required by other pronouncements, and it does not pertain to stock-based compensation under SFAS No. 123(R), *Share-Based Payment*, or to leases under SFAS No. 13, *Accounting for Leases*.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

This statement was effective for financial statements issued for fiscal years beginning after November 15, 2007 (beginning with the Company's 2008 fiscal year). On February 14, 2008, FASB Staff Position (FSP) FAS 157-2, *Effective Date of FASB Statement No. 157* (FSP FAS 157-2), was issued. FSP FAS 157-2 defers application of SFAS No. 157 for non-financial assets and liabilities to years beginning after November 15, 2008 (beginning with the Company's 2009 fiscal year). As a result, the Company partially adopted SFAS No. 157 as it relates to the Company's financial assets and liabilities until it is required to apply this pronouncement to its non-financial assets and liabilities beginning with fiscal year 2009. The adoption did not have any effect on the Company's results of operations or financial condition.

The Company applies fair value accounting to its securities available-for-sale in accordance with SFAS No. 115, *Accounting for Certain Investments in Debt and Equity Securities* (SFAS No. 115). These securities consist of treasury backed money market funds, corporate bonds and commercial paper. Due to the current market conditions, the Company no longer invests in asset backed securities. The following table shows the fair value measurement for its financial assets at December 31, 2008 and the fair value hierarchy level, as defined in SFAS No. 157.

Description	Asset Total	Fair Value Measurements (in thousands)		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Securities available-for-sale	\$ 9,000	\$ 9,000	\$	\$

Asset classes that fall within the Level 1 fair value hierarchy are those assets whose fair value assumptions are based on market data obtained from sources independent of the Company (observable inputs). Level 1 observable inputs are quoted prices for identical items in active markets that the Company has access to at the measurement date.

Asset classes that fall within the Level 2 fair value hierarchy are those assets whose fair value assumptions are also based on independent market data. Level 2 observable inputs are quoted prices for similar items in active markets or quoted prices for identical or similar items in inactive markets. An inactive market is one where there are few transactions, the prices are not current, price quotations vary substantially over time or among market makers or where little information is released publicly.

Asset classes that fall within the Level 3 fair value hierarchy are those assets whose fair value assumptions are based on the Company's own information.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities, including an amendment of SFAS No. 115* (SFAS No. 159). SFAS No. 159 expands the use of fair value accounting but does not affect existing standards that require assets or liabilities to be carried at fair value. Under SFAS No. 159, a company may elect to use fair value to measure accounts and loans receivable, available-for-sale and held-to-maturity securities, equity method investments, accounts payable, guarantees and issued debt. Other eligible items include firm commitments for financial instruments that otherwise would not be recognized at inception and non-cash warranty obligations where a warrantor is permitted to pay a third party to provide the warranty goods or services. If the use of fair value is elected, any upfront costs and fees related to the item must be recognized in earnings and cannot be deferred, such as debt issuance costs. The fair value election is irrevocable and generally made on an instrument-by-instrument basis, even if a company has similar instruments that it elects not to measure based on fair value. At the adoption date, unrealized gains and losses on existing items for which fair value has been elected are reported as a cumulative

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

adjustment to beginning retained earnings. Subsequent to the adoption of SFAS No. 159, changes in fair value are recognized in earnings. SFAS No. 159 was effective for fiscal years beginning after November 15, 2007 (beginning with the Company's 2008 fiscal year).

The Company considers the carrying amount of cash and cash equivalents, prepaid expenses and other current assets, securities available-for-sale, accounts receivable, accounts payable, accrued liabilities and deferred revenue to be representative of their respective fair values because of the short-term nature of those instruments. Based on the borrowing rates currently available to the Company for loans with similar terms, management believes the fair value of the long-term obligations approximate their carrying value. Therefore, the Company has elected not to apply the fair value option to these financial assets and liabilities under SFAS No. 159. However, the Company does apply fair value accounting to its securities available-for-sale in accordance with SFAS No. 115.

Short-term investments are classified as available-for-sale and are carried at fair value, with unrealized gains and losses reported in stockholders equity. The amortized cost of debt securities in this category is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest income. Realized gains and losses and declines in value judged to be other-than-temporary, if any, on available-for-sale securities are included in other income. The cost of securities sold is based on the specific-identification method. Interest and dividends on securities classified as available-for-sale are included in interest income. Total realized gains from fair value changes included in earnings for the fiscal years ended December 31, 2008, 2007 and 2006 were immaterial. There were no cumulative adjustments to beginning retained earnings as a result of adopting SFAS No. 159.

Concentration of Credit Risks

Financial instruments that potentially subject the Company to a significant concentration of credit risk consist primarily of cash and cash equivalents and securities available-for-sale. The Company invests its excess cash in treasury backed money market funds, corporate bonds and commercial paper. Due to the current market conditions, the Company no longer invests in asset backed securities. In accordance with its investment policy, the Company does not invest in auction rate securities. The Company has established guidelines relative to diversification of its cash investments and their maturities that are intended to secure safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates and changes in the Company's operations and financial position. To date, the Company has not experienced any impairment losses on its cash equivalents or securities available-for-sale.

Property and Equipment

Property and equipment is carried at cost less accumulated depreciation. Depreciation is computed on the straight-line method and depending on asset classification, over a period of three to five years. Leasehold improvements are amortized over the estimated useful life of the asset or the lease term, whichever is shorter.

Impairment of Long-Lived Assets

The Company assesses potential impairment to its long-lived assets in accordance with SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, when there is evidence that events or changes in circumstances indicate that the carrying amount of an asset may not be recovered. In connection with a corporate restructuring in November 2008 (Note 6), the Company evaluated its long-lived assets for impairment. The impact of the restructuring to long-lived assets was deemed immaterial.

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

Revenue Recognition

The Company's revenue recognition policies are in accordance with the Staff Accounting Bulletin (SAB) No. 104, *Revenue Recognition*, and Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. The Company's revenues are primarily related to collaborations with pharmaceutical companies. The Company's agreements generally contain multiple elements, including access to proprietary technologies and research and development services. Payments under collaborations are generally made in the form of up-front license fees, milestone payments and downstream royalties. All fees are nonrefundable. Upfront, nonrefundable fees under the Company's collaborations and advance payments for sponsored research, which are in excess of amounts earned are classified as deferred revenue and are recognized as income over the period of performance obligation. Nonrefundable upfront fees, which do not require the Company's continuing involvement, or which do not contain future performance obligations, are recognized when received.

Amounts received for sponsored research funding are recognized as revenues as the services are performed. These agreements are on a best-efforts basis and do not require scientific achievement as a performance obligation and provide for payment to be made when costs are incurred or the services are performed.

Revenue from milestones is recognized when earned, provided that (i) the milestone event is substantive and its achievability was not reasonably assured at the inception of the agreement, and (ii) collaborator funding (if any) of the Company's performance obligations after the milestone achievement will continue at a level comparable to before the milestone achievement. If both of these criteria are not met, the milestone payment is recognized as revenue over the remaining minimum period of the Company's performance obligations under the agreement.

Research and Development

All costs of research and development, including those incurred in relation to the Company's collaborative agreements, are expensed in the period incurred. Research and development costs primarily consist of salaries and related expenses for personnel, stock-based compensation expense, outside service providers, facilities costs, fees paid to consultants, professional services, travel costs, dues and subscriptions, depreciation and materials used in clinical trials and research and development. The Company reviews and accrues clinical trials expenses based on work performed, which relies on estimates of total costs incurred based on completion of patient studies and other events. The Company follows this method since reasonably dependable estimates of the costs applicable to various stages of a research agreement or clinical trial can be made. Accrued clinical development costs are subject to revisions as trials progress to completion. Revisions are charged to expense in the period in which the facts that give rise to the revision become known.

Stock-Based Compensation

In March 2005, the Securities and Exchange Commission (SEC) issued SAB No. 107, *Share-Based Payments*, which provides guidance on the implementation of SFAS No. 123R. The Company applied the principles of SAB No. 107 in conjunction with its adoption of SFAS No. 123R.

The Company adopted SFAS No. 123R effective January 1, 2006, using the modified-prospective transition method. Under this transition method, compensation expense under both the Amended and Restated 2001 Equity Incentive Plan (Equity Incentive Plan) and the 2004 Non-Employee Directors' Stock Option Plan (Directors' Stock Option Plan) are recognized based on the grant date fair value estimated in accordance with the provisions of SFAS No. 123R for all new grants effective January 1, 2006, and for options granted prior to but not vested as

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

of December 31, 2005, compensation is recognized based on the grant date fair value as estimated in accordance with SFAS No. 123. Compensation expense is recognized over the requisite service period which is typically the period over which the stock-based compensation awards vest. Compensation expense under the 2004 Employee Stock Purchase Plan (Employee Stock Purchase Plan) is recognized based on the fair value on the date that the purchase rights were granted in accordance with the provisions of SFAS No. 123R for all new grants effective January 1, 2006, and for share purchase rights granted prior to but not vested as of December 31, 2005, and will be recognized over the remaining period of each grant s respective offering period. Compensation expense is reduced for estimated forfeitures. Forfeitures are estimated at the time of grant for option awards and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

The Employee Stock Purchase Plan permits for the modification of the original rate of contribution an employee elects upon enrollment. The Company accounts for each increase from the original rate of contribution, during an offering period, as a modification of the original award and recognizes the incremental change in compensation expense as a result of the change in fair value from the modification. The incremental effect to stock compensation as a result of modifications to these awards during 2008, 2007 and 2006 was immaterial.

The Company accounts for stock options granted to non-employees for acquiring, or in conjunction with selling, goods and services in accordance with SFAS No. 123 and EITF No. 96-18, *Accounting For Equity Instruments That Are Issued To Other Than Employees For Acquiring, Or In Conjunction With Selling, Goods Or Services*, and accordingly recognizes as expense the estimated fair value of such options as calculated using the Black-Scholes option-pricing model. The fair value is remeasured during the service period and is amortized over the vesting period of each option or the recipient s contractual arrangement, if shorter.

Comprehensive Income (Loss)

SFAS No. 130, *Reporting Comprehensive Income*, requires that all components of comprehensive income (loss), including net loss, be reported in the financial statements in the period in which they are recognized. Comprehensive income (loss) is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources. The Company s other comprehensive income (loss) for 2008, 2007 and 2006 consisted of unrealized gains and losses on available-for-sale securities and is reported in stockholders equity.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)*****Net Loss Per Share***

The Company calculated net loss per share in accordance with SFAS No. 128, *Earnings Per Share*. Basic earnings per share (EPS) is calculated by dividing the net loss by the weighted average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted EPS is computed by dividing the net loss by the weighted average number of common share equivalents outstanding for the period determined using the treasury-stock method. For purposes of this calculation, common stock subject to repurchase by the Company, options, and warrants are considered to be common stock equivalents and are only included in the calculation of diluted earnings per share when their effect is dilutive. The total number of shares issuable upon exercise of stock options and warrants excluded from the calculation of diluted earnings per share since they are anti-dilutive were 7,609,266, 7,236,732 and 6,694,740 in 2008, 2007 and 2006, respectively.

	Years Ended December 31,		
	2008	2007	2006
	(in thousands, except per share amounts)		
Actual:			
<i>Numerator:</i>			
Net loss	\$ (42,314)	\$ (41,799)	\$ (33,268)
<i>Denominator:</i>			
Weighted average common shares	33,779	30,587	29,152
Weighted average unvested common shares subject to repurchase			(133)
Denominator for basic and diluted net loss per share	33,779	30,587	29,019
Basic and diluted net loss per share	\$ (1.25)	\$ (1.37)	\$ (1.15)

Warrants

The Company has issued warrants to purchase its shares of common stock in connection with financing or debt arrangements. Generally, the warrants have been provided as additional consideration to an investor for the purchase of the Company's common stock, or the commitment to purchase common stock in the future, through a structured offering. The terms of the warrants vary, but generally include an exercise price equal to a specific premium over the value of the common stock at the time of the warrant issuance. The warrant holder may elect to exercise the warrants by physical settlement or net-share settlement.

The Company accounts for these financial instruments in accordance with SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity*, and if and when applicable, EITF Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to and Potentially Settled in a Company's Own Stock*. Where the instrument qualifies as a freestanding financial instrument and does not represent an obligation or where the monetary value of the instrument changes in the same direction as the shares of common stock, the Company will assess the terms of the instrument against the criteria within EITF Issue No. 00-19 to determine the appropriate classification as equity or a liability. As of December 31, 2008, all warrants issued were classified as equity.

Recent Accounting Pronouncements

In November 2007, the EITF issued EITF Issue No. 07-1, *Accounting for Collaborative Arrangements Related to the Development and Commercialization of Intellectual Property*. Companies may enter into arrangements with other companies to jointly develop, manufacture, distribute, and market a product. Often the activities associated with these arrangements are conducted by the collaborators without the creation of a

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

separate legal entity (that is, the arrangement is operated as a virtual joint venture). The arrangements generally provide that the collaborators will share, based on contractually defined calculations, the profits or losses from the associated activities. Periodically, the collaborators share financial information related to product revenues generated (if any) and costs incurred that may trigger a sharing payment for the combined profits or losses. The consensus requires collaborators in such an arrangement to present the result of activities for which they act as the principal on a gross basis and report any payments received from (made to) other collaborators based on other applicable GAAP or, in the absence of other applicable GAAP, based on analogy to authoritative accounting literature or a reasonable, rational, and consistently applied accounting policy election. EITF Issue No. 07-1 is effective for collaborative arrangements in place at the beginning of the annual period beginning after December 15, 2008. The Company does not expect the adoption of EITF Issue No. 07-1 to have a material impact on its financial statements.

In December 2007, the FASB issued SFAS No. 141(R), *Business Combinations* (SFAS No. 141(R)). SFAS No. 141(R) replaces SFAS No. 141. SFAS No. 141(R) requires the acquirer of a business to recognize and measure the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree at fair value. SFAS No. 141(R) also requires transaction costs related to the business combination to be expensed as incurred. SFAS No. 141(R) applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008 (the Company's 2009 fiscal year). The adoption of SFAS No. 141(R) is not expected to have a material impact on the Company's financial statements.

In May 2008, the FASB issued SFAS No. 162, *The Hierarchy of Generally Accepted Accounting Principles* (SFAS No. 162). SFAS No. 162 identifies the sources of accounting principles and provides entities with a framework for selecting the principles used in preparation of financial statements that are presented in conformity with GAAP. The current GAAP hierarchy has been criticized because it is directed to the auditor rather than the entity, it is complex and it ranks FASB Statements of Financial Accounting Concepts, which are subject to the same level of due process as FASB SFAS, below industry practices that are widely recognized as generally accepted but that are not subject to due process. The FASB believes the GAAP hierarchy should be directed to entities because it is the entity (not its auditors) that is responsible for selecting accounting principles for financial statements that are presented in conformity with GAAP. SFAS No. 162 is effective 60 days following the SEC's approval of the Public Company Accounting Oversight Board amendments to AU Section 411, *The Meaning of Present Fairly in Conformity With Generally Accepted Accounting Principles*. The Company adopted SFAS No. 162, and it did not have a material impact on the Company's financial statements.

In June 2008, the EITF issued EITF No. 08-3, *Accounting by Lessees for Maintenance Deposits under Lease Agreements* (EITF No. 08-3). Under certain lease arrangements, the lessee is contractually responsible for repair and maintenance of the leased asset, and the lessee is required to make deposits with the lessor to fund that maintenance. The deposit is refunded to the lessee only to the extent that the lessee incurs qualified maintenance costs. Questions have arisen as to the proper accounting for these deposits as some companies account for the maintenance deposits as deposits, while other companies account for them as contingent rental expense. EITF No. 08-3 concludes that maintenance deposits should be considered deposits when paid to the lessor if it is probable that the deposits will be refunded to the lessee. If it is not probable, then the deposits are recognized as rental expense. If it is determined at the inception of the lease that a portion of the deposits is not probable of being refunded to the lessee, then the lessee should recognize as expense a pro-rata portion of the deposits as they are paid. The cost of maintenance activities should be expensed or capitalized, as appropriate. The definition of "probable" will fall under the guidance of FASB Concept Statement No. 6, *Elements of Financial Statements*. EITF No. 08-3 is effective for fiscal years beginning after December 15, 2008 (beginning with the Company's 2009 fiscal year). Early application is not permitted. The adoption of EITF No. 08-3 is not expected to have a material impact on the Company's financial statements.

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

In December 2008, the FASB issued FSP FAS 140-4 and FIN 46(R)-8, *Disclosures by Public Entities about Transfers of Financial Assets and Interests in Variable Interest Entities*. The purpose of this FSP is to promptly increase disclosures by public entities and enterprises until the pending amendments to FASB Statement No. 140, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*, (SFAS No. 140) and FASB Interpretation No. 46 (revised December 2003), *Consolidation of Variable Interest Entities*, (FIN 46(R)) are finalized and approved by the FASB. The FSP is effective for reporting periods (interim and annual) ending after December 15, 2008 (the Company's 2008 fiscal year).

This FSP amends SFAS No. 140 to require public entities to provide additional disclosures about transferors' continuing involvement with transferred financial assets. This FSP also amends FIN 46(R) to require public enterprises, including sponsors that have a variable interest in a variable interest entity, to provide additional disclosures about their involvement with variable interest entities. This FSP also requires disclosures by a public enterprise that is (a) a sponsor of a qualifying special-purpose entity (SPE) that holds a variable interest in the qualifying SPE but was not the transferor of financial assets to the qualifying SPE and (b) a servicer of a qualifying SPE that holds a significant variable interest in the qualifying SPE but was not the transferor of financial assets to the qualifying SPE. The adoption of this FSP did not have a material impact on the Company's financial statements.

4. Stock-Based Compensation

Equity Plans

The Company maintains three shareholder-approved share-based compensation plans that are subject to the requirements of SFAS No. 123R. The Equity Incentive Plan provides for the grant of stock options and restricted stock to officers, directors and employees of, and consultants and advisors to, the Company. The Directors' Stock Option Plan provides for the grant of non-statutory stock options to non-employee directors. The Employee Stock Purchase Plan provides a means by which employees may purchase common stock at a discount through payroll deductions and is intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Internal Revenue Code (IRC).

Grants under the Equity Incentive Plan and the Directors' Stock Option Plan are primarily in the form of options that allow a grantee to purchase a fixed number of shares of the Company's common stock at a fixed exercise price equal to the market price of the shares at the date of the grant. Grants under the Equity Incentive Plan may be either incentive stock option grants or non-qualified stock option grants if they are granted to employees and are non-qualified stock option grants if granted to non-employees. Grants under the Directors' Stock Option Plan are non-qualified stock option grants. Options under both the Equity Incentive Plan and the Directors' Stock Option Plan may vest on a single date or in tranches over a period of time, but normally they do not vest unless the grantee is still employed by or a director of the Company on the vesting date. Options under the Equity Incentive Plan generally vest over a four year period: 1/4th on the first year anniversary of the date of grant and in equal monthly installments over the remaining three years and expire ten years from the date of grant. Options under the Directors' Stock Option Plan generally vest from one to three years, and expire ten years from the date of grant. The Company made no modifications to outstanding options with respect to vesting periods or exercise prices prior to adopting SFAS No. 123R. Rights to purchase shares under the Employee Stock Purchase Plan allow participating employees to purchase stock at a discount during offering periods of 6, 12, 18 or 24 months with purchases occurring every six months.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)***SFAS No. 123R Compensation Expense*

In accordance with SFAS No. 123R, the Company recognized share-based compensation expense for all three plans as follows (in thousands, except per share data):

	December 31,		
	2008	2007	2006
Stock-based compensation expense:			
Research and development	\$ 2,381	\$ 3,118	\$ 1,936
General and administrative	1,558	1,917	1,809
Total stock-based compensation expense	\$ 3,939	\$ 5,035	\$ 3,745
Effect on loss per share:			
Basic and diluted	\$ 0.12	\$ 0.16	\$ 0.13

Compensation expense for all options granted under the Equity Incentive Plan and the Directors' Stock Option Plan during the twelve-month period ended December 31, 2008 was recognized on a straight-line basis over the vesting period of each grant, net of estimated forfeitures.

The estimated fair value of the options and share purchase rights granted during 2006 and in subsequent years was calculated using a Black-Scholes model. The following summarizes the assumptions used in the Black-Scholes model:

	December 31, 2008		
	Equity Incentive Plan and Directors' Stock Option Plan		Employee Stock Purchase Plan
Risk-free interest rate ⁽¹⁾	3.1%		3.2%
Volatility ⁽²⁾	81.3%		79.8%
Dividend yield ⁽³⁾	0.0%		0.0%
Expected Life ⁽⁴⁾	5.8 years		1.3 years
Weighted average fair value at date of grant	\$ 1.23		\$ 1.12

	December 31, 2007		
	Equity Incentive Plan and Directors' Stock Option Plan		Employee Stock Purchase Plan
Risk-free interest rate ⁽¹⁾	4.5%		4.7%
Volatility ⁽²⁾	72.1%		69.7%
Dividend yield ⁽³⁾	0.0%		0.0%
Expected Life ⁽⁴⁾	5.8 years		1.3 years
Weighted average fair value at date of grant	\$ 4.51		\$ 3.03

	December 31, 2006		
	Equity Incentive Plan and Directors' Stock Option Plan		Employee Stock Purchase Plan

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Risk-free interest rate ⁽¹⁾	4.7%	4.7%
Volatility ⁽²⁾	69.0%	67.5%
Dividend yield ⁽³⁾	0.0%	0.0%
Expected Life ⁽⁴⁾	6 years	1.3 years
Weighted average fair value at date of grant	\$ 4.84	\$ 2.11

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Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

- (1) The risk-free interest rate is based on U.S. Treasury debt securities with maturities close to the expected term of the option and the share purchase right.
- (2) Expected volatility is based on the weighted average volatility of the Company's stock factoring in daily share price observations and the historical price volatility of certain peers within the Company's industry sector. In computing expected volatility, the length of the historical period used is equal to the length of the expected term of the option and the share purchase right.
- (3) No cash dividends have been declared on the Company's common stock since the Company's inception, and the Company currently does not anticipate paying cash dividends over the expected term of the option and the share purchase right.
- (4) The expected life of employee stock options represents the average of the contractual term of the options and the weighted average vesting period, as permitted under the simplified method, under SAB No. 107.

As of December 31, 2008, the Company had approximately \$5.5 million of unrecognized stock-based compensation expense under the Equity Incentive Plan and the Directors' Stock Option Plan. The expense is expected to be recognized on a straight-line basis over a weighted average period of approximately 2.5 years.

During the year ended December 31, 2008, the Company recognized approximately \$245,000 of additional stock-based compensation expense associated with the modification of vesting terms on stock options held by former officers of the Company. These modifications were made pursuant to existing severance agreements the Company.

Equity Plan Activity

The following is a summary of stock option activity under the Equity Incentive Plan and the Directors' Stock Option Plan as of December 31, 2007, and changes during the twelve months ended December 31, 2008 (in thousands, except per share data):

	Outstanding Options	
	Number of Options	Weighted Average Exercise Price Per Share
Outstanding at December 31, 2007	3,558	\$ 5.97
Granted	2,923	\$ 1.73
Exercised	(13)	\$ 0.83
Canceled	(1,061)	\$ 4.84
Outstanding at December 31, 2008	5,407	\$ 3.91
Exercisable at December 31, 2008	2,519	\$ 5.00

The total intrinsic value of options exercised in 2008, 2007 and 2006 was \$10,722, \$220,000 and \$254,000, respectively.

The aggregate intrinsic values of stock options exercisable and outstanding as of December 31, 2008 were immaterial. The weighted average remaining contractual terms of options outstanding and exercisable as of December 31, 2008 were 4.8 years and 4.1 years, respectively.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)****5. Balance Sheet Details****Securities Available-For-Sale**

Securities available-for-sale consisted of the following (in thousands):

	Amortized Cost	December 31, 2008		Estimated Fair Value
		Gross Unrealized Gains	Gross Unrealized Losses	
Corporate debt securities	\$ 4,330	\$ 20	\$	\$ 4,350
Government securities	4,638	12		4,650
Total	\$ 8,968	\$ 32	\$	\$ 9,000

	Amortized Cost	December 31, 2007		Estimated Fair Value
		Gross Unrealized Gains	Gross Unrealized Losses	
Corporate debt securities	\$ 21,268	\$ 73	\$	\$ 21,341
Asset-backed securities	6,950	6		6,956
Total	\$ 28,218	\$ 79	\$	\$ 28,297

Gross realized gains and losses on available-for-sale securities were immaterial during the years ended December 31, 2008, 2007 and 2006. All realized gains and losses are reclassified out of other comprehensive income (loss) in the period recognized based on the specific identification method. Proceeds from the sale of short-term investments totaled \$44.2 million, \$118.2 million and \$104.2 million for the years ended December 31, 2008, 2007 and 2006, respectively. All available-for-sale securities at December 31, 2008 have a contractual maturity of one year or less.

Investments considered to be temporarily impaired at December 31, 2008 are immaterial. There are no investments held at December 31, 2008, which are considered to be temporarily impaired with maturities beyond 12 months. The Company regularly monitors and evaluates the realizable value of its marketable securities. When assessing marketable securities for other-than-temporary declines in value, the Company considers such factors as, among other things, how significant the decline in value is as a percentage of the original cost, how long the market value of the investment has been less than its original cost and the market in general.

Property and Equipment

Property and equipment consisted of the following (in thousands):

	December 31,	
	2008	2007
Laboratory equipment	\$ 9,250	\$ 8,972
Computers and electronics	2,186	1,903

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Leasehold improvements	1,401	1,356
Office furniture and fixtures	624	600
Construction in progress		160
	13,461	12,991
Less: accumulated depreciation and amortization	(8,682)	(6,635)
	\$ 4,779	\$ 6,356

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Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

Depreciation and amortization expense, which include assets held under capital leases, was \$2.1 million, \$2.0 million and \$1.6 million for the years ended December 31, 2008, 2007 and 2006, respectively. Assets held under capital leases were approximately \$98,000 at December 31, 2008 and 2007, and accumulated depreciation was approximately \$83,000 and \$60,000 at December 31, 2008 and 2007, respectively. The balance of capital leases and equipment loans totaled approximately \$3.9 million and \$6.0 million at December 31, 2008 and 2007, respectively.

The Company recorded \$55,000 of asset disposals resulting in a loss of \$29,000 for the twelve months ended December 31, 2008. The Company recorded \$153,000 in loss on disposals for the twelve months ended December 31, 2007 and \$29,000 for the twelve months ended December 31, 2006.

Accrued Liabilities and Accrued Compensation

Accrued liabilities and accrued compensation consisted of the following (in thousands):

	December 31,	
	2008	2007
Accrued development expenses	\$ 1,244	\$ 3,241
Accrued legal and patent fees	73	216
Other accrued liabilities	481	675
	\$ 1,798	\$ 4,132
Accrued employee benefits	\$ 1,849	\$ 1,914
Accrued restructuring expenses	582	
Accrued bonuses	8	1,267
	\$ 2,439	\$ 3,181

6. Corporate Restructuring

In November 2008, the Company committed to a restructuring plan that resulted in the reduction of approximately 30% of the Company's workforce. The restructuring was a result of a strategic realignment of the Company to preserve cash and reduce on-going operating expenses. Employees directly affected by the restructuring plan received notification and were provided with severance payments, retention bonuses, where applicable, continued benefits for a specified period of time and outplacement assistance. The Company expects to complete the restructuring plan by the end of the first quarter of 2009.

The Company anticipates incurring restructuring charges of approximately \$1.7 million, primarily associated with personnel-related termination costs. The Company does not expect to incur any expense related to contractual or lease obligation or other exit costs. However, this expectation is subject to a number of assumptions, and actual results may materially differ. Pursuant to SFAS No. 146, *Accounting for Costs Associated with Exit or Disposal Activities*, the Company recorded a charge of approximately \$1.5 million for the twelve month period ending December 31, 2008, of which approximately \$1.2 million was included in research and development expense and approximately \$334,000 was included in general and administrative expense. The remaining \$229,000 of anticipated costs associated with this restructuring relates to employees who were retained and will be recognized as earned over the retention period, which is expected to be completed by the end of the first quarter of 2009.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

As of December 31, 2008, the Company had a remaining balance of \$582,000 of accrued restructuring expenses included in the balance sheet. The changes to the accrued liability during 2008 are as follows (in thousands):

	Termination Costs for Involuntary Employee Terminations
Accrual balance at December 31, 2007	\$
Accruals	1,483
Payments	(901)
Accrual balance as of December 31, 2008	\$ 582

7. Commitments and Contingencies***Lease Commitments***

The Company leases its office and research facilities and certain laboratory and electronic equipment under operating and capital lease agreements, which expire at varying dates through 2015.

In September 2007, the Company entered into an operating lease agreement pursuant to which the Company leased approximately 2,900 square feet of office space in Ann Arbor, Michigan. The lease expired on December 31, 2008, and the Company continues to pay for the office space on a month-to-month basis. As a result of a corporate restructuring that occurred in November 2008, the Company does not anticipate occupying this office space after the first quarter of 2009.

In December 2004, the Company entered into an operating lease agreement pursuant to which the Company leased approximately 82,000 square feet of real estate space in La Jolla, California consisting of laboratory and office space. The lease commenced in October 2005 and has an initial term of 10 years unless extended or terminated sooner. The Company has options to extend the lease for two renewal periods of five years each. The Company's aggregate lease payments through 2015 will be \$24.2 million. The facility lease provides for various forms of rent abatement during the first 48 months of the lease and annual rent increases of 3.0%. The difference between the straight-line expense over the term of the lease and actual amounts paid are recorded as deferred rent.

Rent expense was approximately \$2.9 million for the year ended December 31, 2008 and approximately \$2.8 million for the years ended December 31, 2007 and 2006.

Debt

In March 2008, the Company entered into a Loan and Security Agreement (Agreement) with Oxford Corporation (Oxford), pursuant to which Oxford provided the Company with a three-year, \$5.0 million term loan. The Company is using the proceeds from the loan for general working capital purposes. Interest accrues at an annual rate of 9.83%, with six interest-only monthly payments, made in arrears, beginning in May 2008, followed by 30 equal monthly payments of principal and interest beginning in November 2008. The Company paid a facility fee of \$50,000 upon signing of the term sheet and is required to pay an additional fee of 4% of the term loan amount, or \$200,000, at the end of the three year term. The Company has the option to prepay the outstanding balance of the term loan in full, subject to a prepayment fee. The loan is collateralized by the general

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

assets of the Company, excluding intellectual property. There are no financial covenants under the terms of this Agreement. In the event the Company becomes in default of the loan agreement, the lender has the right under a control agreement, to assume control over the Company's bank accounts, which include its operating and short-term investment accounts.

In connection with the Agreement, the Company issued to Oxford a warrant to purchase up to 154,639 shares of the Company's common stock at an exercise price of \$1.94 per share, which represents the closing price of the Company's common stock on the date of the Agreement. The warrant is immediately exercisable and expires in March 2018. The warrant holder may elect to exercise the warrant by physical settlement or net-share settlement. In accordance with EITF Issue No. 00-19 the warrant met all criteria within the guidance providing for the classification of this financial instrument as equity. The fair value of this warrant, totaling \$220,000 at March 14, 2008, was determined using the Black-Scholes model with the following assumptions: risk free interest rate of 3.05%, dividend yield of 0%, expected volatility of 81.63%, and an expected term of 5 years.

In August 2003, the Company entered into a \$1.4 million equipment loan agreement with a financing company. This agreement was subsequently amended two times to increase the amount available to \$7.6 million. The proceeds were used to finance lab equipment, computer and electronic equipment and furniture, which serve as collateral under the loan. The Company utilized the total amount available under the equipment loan agreement by December 31, 2007. Each borrowing is payable over 48 months with the interest rate fixed at the funding date of each borrowing ranging from 8.62% to 10.96%. The weighted average interest rate is 10.46%. The outstanding balance of this loan is \$3.6 million and \$5.7 million at December 31, 2008 and 2007, respectively.

The Company's outstanding debt and equipment loan agreements with Oxford contain events of default that may be triggered by a material adverse change, which is defined in the agreements as any material change in the general affairs, senior management, results of operations, or financial condition of the Company, whether or not arising from transactions in the ordinary course of business, that is likely to impair the ability of the Company to repay any portion of the obligations or a material impairment in the value or priority of the lender's security interest in the collateral. As described in Note 2, the Company currently does not have sufficient working capital to fund its operations through December 31, 2009 without additional sources of cash. While the determination of the occurrence of a material adverse event is subjective, Oxford has confirmed that the Company was not in default under the outstanding debt and equipment loan agreements as of December 31, 2008. In the event the Company is not successful in securing additional sources of cash in the near-term, Oxford may claim that a material adverse change has occurred under the debt or equipment loan agreements, and Oxford could demand immediate repayment of the balances outstanding under the agreements.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

In connection with the facility lease, which commenced in October 2005, the Company agreed to a \$300,000 loan for tenant improvements. The term of the loan corresponds to the initial 10 year term of the lease. The interest rate is 8.0% per annum. The outstanding balance of this loan was \$229,000 and \$254,000 at December 31, 2008 and 2007, respectively. Payment schedules for commitment and contractual obligations at December 31, 2008, are as follows (in thousands):

	Capital Leases	Long-term Debt	Operating Leases
2009	\$ 31	\$ 4,567	\$ 2,820
2010	24	3,640	3,112
2011	4	1,422	3,185
2012		44	3,279
2013		44	3,374
Thereafter		78	6,444
Total minimum payments	59	9,795	\$ 22,214
Less amount representing interest	(6)	(1,247)	
Present value of net minimum payments	53	8,548	
Less current portion	(26)	(3,890)	
Long-term debt and capital lease obligations	\$ 27	\$ 4,658	

The Company also has open purchase orders from time to time for the purchase of capital expenditures, consulting services, subscriptions and materials. Obligations under these open purchase orders totaled \$967,000 million at December 31, 2008. These purchase commitments expire at varying dates through December 31, 2009.

Executive Severance Agreements

The Company has entered into employment agreements with our executive officers and certain other key employees that, under certain circumstances, provide for the continuation of salary and certain other benefits if terminated under specified circumstances. These agreements generally expire upon termination for cause or when the Company has met its obligations under these agreements.

As part of the Company's restructuring and reduction in workforce described in Note 6 above, the employment of Howard Foyt, Ph.D., M.D., Vice President of Clinical Development, was terminated. In connection with his termination, the Company recognized \$352,000 of severance costs for the year ended December 31, 2008.

In December, Paul K. Laikind, Ph.D. resigned as the Company's President, Chief Executive Officer and Interim Chief Financial Officer, effective December 9, 2008. Dr. Laikind continues to serve as a member of our board of directors. In connection with his resignation, the Company recognized \$554,000 of separation costs for the year ended December 31, 2008.

Clinical Development Agreements

The Company has entered into agreements with various vendors for the research and clinical development of its product candidates, which are generally cancelable at the option of the Company at any time. Under the terms of these agreements, the vendors provide a variety of services including conducting preclinical development research, manufacturing clinical compounds, enrolling patients, recruiting patients, monitoring

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

studies, data analysis and regulatory filing assistance. Payments under these agreements typically include fees for services and reimbursement of expenses. In addition, under certain agreements, we are subject to penalties in the event we prematurely discontinue performance under these agreements.

8. Collaborative Research and Development Agreements*Roche*

In August 2008, the Company entered into a two-year Research Collaboration and License Agreement with Hoffmann-La Roche Inc., F. Hoffmann-La Roche LTD and Roche Palo Alto LLC (collectively, Roche). Under the terms of the Roche agreement, the Company's HepDirect liver-targeted technology will be applied to proprietary Roche compounds to develop second-generation nucleoside analog drug candidates for treating hepatitis C virus. The Company received an upfront payment of \$10.0 million from Roche in August 2008, of which \$8.3 million will be recognized as license fees revenue and \$1.7 million will be recognized as sponsored research revenue. Roche may also pay up to \$2.1 million in sponsored research funding at the beginning of the second year of the research term, if applicable. In the event a development candidate is identified, Roche will assume development responsibility and the Company will be eligible to receive up to \$193.0 million in additional payments upon achievement of predetermined preclinical and clinical development events as well as regulatory and commercialization events. Roche will retain full commercial rights for any marketed products resulting from the collaboration and will pay the Company a royalty on net sales of such products. The Company recognized revenue of \$2.3 million for the year ended December 31, 2008 related to this collaboration. Deferred revenue of approximately \$7.7 million is reflected on the balance sheet as of December 31, 2008, relating to this agreement.

Merck

In June 2005, the Company entered into a collaboration agreement with Merck & Co. (Merck), to research, develop and commercialize novel small molecule therapeutics with the potential to treat type 2 diabetes, and potentially other metabolic diseases, by activating an enzyme in the liver called AMP-activated Protein Kinase. As part of this collaboration, Merck paid an initial non-refundable license fee of \$5.0 million in July 2005 and provided research support funding of approximately \$6.3 million over the three year research term. The three-year research term is subject to renewal for one additional year upon the parties' mutual agreement. In April 2008, the research term was extended for an additional year, through June 2009. The Company will receive \$1.5 million over the course of the one year extension to support continued research efforts. Merck is also obligated to pay milestone payments if specified preclinical and clinical development and regulatory events occur and pay royalties on sales of any product resulting from this collaboration. As of December 31, 2008, the Company has not achieved any developmental milestones and thus, no payments have been received for milestones from Merck. The Company would also have the option to co-promote any such product in the United States. If all preclinical and clinical milestones are achieved on multiple indications, and including the \$5.0 million initial, non-refundable license fee and the minimum \$6.3 million in research support funding, the Company may be entitled to payments which total up to \$74.3 million, plus royalties. Merck is solely responsible for conducting and funding all development work for compounds resulting from this collaboration.

The Company recognized revenue of \$2.5 million for the year ended December 31, 2008 and \$3.8 million for the years ended December 31, 2007 and 2006 related to this collaboration. Deferred revenue of approximately \$478,000 is reflected on the balance sheet as of December 31, 2008, relating to this agreement.

In December 2003, the Company entered into a non-exclusive collaboration agreement with Merck to discover new treatments for hepatitis C. The research term of the collaboration was initially for one year and in January 2005, was extended for an additional year through December 2005. As part of this collaboration, Merck paid an upfront fee of \$500,000 which was recognized as revenue over the initial one-year term of the agreement.

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and paid research support totaling \$2.7 million during 2004 and 2005. Revenue recognized under the agreement was zero for the years ended December 31, 2008, 2007 and 2006. Merck is also obligated to pay preclinical and clinical milestone payments if specified development and regulatory events occur and royalties on sales of products resulting from the collaboration. If all preclinical and clinical milestones are achieved, and including the \$500,000 upfront fee, the \$2.7 million in research support, the Company may be entitled to payments which total up to \$25.3 million, plus royalties. Merck is solely responsible for conducting and funding all development work for compounds resulting from the collaboration and for commercializing any resulting products.

Idenix

In October 2006, the Company entered into a non-exclusive collaboration agreement with Idenix Pharmaceuticals, Inc. (Idenix) to apply its HepDirect technology to certain Idenix lead compounds with the goal of improving the safety and efficacy of these compounds for the treatment of hepatitis C. The agreement provided for up to two years of sponsored research. In addition, Idenix had the option to terminate the research term upon the first anniversary of the effective date of the agreement or upon the achievement of certain research and clinical development milestones during the research term. As part of this collaboration, Idenix paid the Company an initial, non-refundable license fee of \$2.0 million in November 2006 and agreed to provide research funding of up to \$1.7 million per year during the research term. In October 2007, the sponsored research term of the collaboration agreement ended upon the first anniversary of the agreement and the collaboration agreement subsequently terminated in accordance with its terms.

Daiichi Sankyo

In April 1997, the Company entered into a multi-year research, development and commercialization agreement with Daiichi Sankyo Company, Ltd. (Daiichi Sankyo) to develop novel FBPase inhibitors for the treatment of diabetes. The research period ended in April 2002. Daiichi Sankyo was responsible for funding the clinical development of compounds selected for development under the agreement. Daiichi Sankyo had the right to select compounds discovered during the discovery period and was responsible for conducting and funding the clinical development of any compound selected for development. Daiichi Sankyo selected CS-917 as a clinical candidate in 1999 and completed the clinical trials through Phase 2b in the third quarter of 2007. The results of the Phase 2b clinical trial indicated CS-917 failed to achieve the trial's primary endpoint. As a result, the Company and Daiichi Sankyo agreed to terminate the collaboration agreement and return all rights and data related to this product candidate to the Company in January 2008. During the term of the collaboration agreement, the Company achieved three developmental milestones triggering a total of \$6.5 million in payments, none of which were received in 2008, 2007 or 2006.

Valeant

In October 2001, the Company entered into a development and license agreement with Valeant Pharmaceuticals International (Valeant) for the development and commercialization of pradefovir for the treatment of hepatitis type B. Under the agreement, Valeant was granted exclusive worldwide rights to develop and commercialize pradefovir. As of December 31, 2008, the Company had achieved developmental milestones triggering a total of \$2.0 million in payments from Valeant. The first milestone was earned in April 2003 and the second milestone was earned in July 2004.

Schering Corporation

In January 2007, Valeant entered into an Assignment and Assumption Agreement (the Assignment Agreement) with Schering Corporation (Schering), under which Valeant assigned its rights, interests and obligations under the development and license agreement to Schering, and further granted Schering a license to

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

its intellectual property related to pradefovir. Concurrently, the Company and Schering entered into an amended and restated development and license agreement for the continued future development and commercialization of pradefovir. Under the amended and restated development and license agreement and pursuant to Valeant's assignment, Schering was granted exclusive worldwide rights to develop and commercialize pradefovir during the term of the agreement. The Company received a non-refundable license fee of \$1.8 million in January 2007 from Schering.

In September 2007, the Company, Schering and Valeant entered into a Termination Agreement (the "Termination Agreement") to terminate the agreements for the development and commercialization of pradefovir. These agreements were terminated as a result of numerous factors, which may include the results of the 24-month oral carcinogenicity studies of pradefovir in rats and mice. The Company will not receive any additional payments related to these agreements and all rights to pradefovir have been returned to the Company, subject to certain milestone and royalty payments the Company may be required to make to Valeant should this product candidate be subsequently developed.

In September 2008, the Company, Schering and Valeant entered into an Amendment Agreement (the "Amendment Agreement") to amend certain terms of the Assignment Agreement and the Termination Agreement. Pursuant to the Amendment Agreement, among other things, the Assignment Agreement was amended to provide for a reduction in the total number and value of milestone payments payable by the Company to Valeant upon the achievement of certain specified events to a single milestone payment due upon the first regulatory approval of pradefovir, and to reduce certain royalty payments due from the Company to Valeant upon commercialization of pradefovir. In addition, the Termination Agreement was amended to transfer certain patient registry obligations, should they be required, to the Company from Valeant (excluding the cost thereof, up to a specified limit).

9. Committed Equity Financing Facility

In November 2006, the Company entered into a Committed Equity Financing Facility ("CEFF") with an institutional investor. Under the terms of the agreement the investor is committed to providing the Company up to \$50 million in funding, or up to a maximum of 6,046,071 shares of common stock, over a three-year term through the purchase of newly-issued shares of the Company's common stock. In February 2008, the CEFF was amended to reduce the minimum market capitalization required to permit a draw down and to eliminate certain termination rights maintained by the investor, among other things. The Company may access capital under the CEFF in tranches of up to the lesser of \$10 million or from between 1.0% to 1.5% of the Company's market capitalization at the time of the draw down of such tranche, subject to certain conditions. Currently, the Company does not meet these conditions and, therefore, does not have access to the CEFF. The investor will purchase shares of the Company's common stock pursuant to the CEFF at discounts ranging from 6% to 10%, depending on the average market price of the common stock during the eight-day pricing period, provided that the minimum acceptable purchase price for any shares to be issued to the investor during the eight-day pricing period is determined by the higher of \$1.75 or 90% of the Company's share price the day before the commencement of each draw down.

In accordance with SFAS No. 133 *Implementation Issue A6*, the Company determined the option to sell shares of the Company's common stock does not qualify as a derivative as the notional amount, the sales price of the stock, is variable and therefore undeterminable. In addition, this arrangement does not require a minimum number of shares to be sold and is restricted to a maximum number of shares to be sold.

The Company issued a warrant to the investor to purchase up to 260,000 shares of common stock at an exercise price of \$9.26 per share which represents a 30% premium over the average of the closing prices of the Company's common stock during the 5 days preceding the signing of the agreement. In connection with the amendment of the CEFF, the warrant was cancelled and replaced with a new warrant for 260,000 shares of

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common stock at an exercise price of \$4.76 per share. The warrant is exercisable and will remain exercisable, subject to certain exceptions, until November 2, 2011. In accordance with EITF Issue No. 00-19, the warrant met all criteria within the guidance providing for the classification of this financial instrument as equity. The fair value of this warrant, totaling \$1.1 million, was determined using the Black-Scholes model using the following assumptions: risk-free interest rates of 4.84%; dividend yield of 0%; expected volatility of 74%; and a term of 5.5 years. The net effect of recording the fair value to equity is zero at December 31, 2008 and 2007.

The Company filed a registration statement with the SEC for the resale of the shares of common stock issuable in connection with the CEFF and the shares of common stock underlying the warrant in accordance with a registration rights agreement entered into concurrently with the above agreements. The registration rights agreement maintains penalty and make-whole provisions where the investor may be restricted, due to black out periods, from trading shares of the Company's common stock purchased pursuant to the CEFF or by the exercise of the warrant. In accordance with SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, and EITF Issue No. 00-19-2, *Accounting for Registration Payment Arrangements*, the Company accounts for these provisions under SFAS No.5, *Accounting for Contingencies*, and will record the fair value of the liability in the event such a penalty is measurable and probable. In 2007, an effective registration statement was filed with the SEC and the Company had not utilized this financial instrument.

10. Stockholders' Equity***Common Stock***

In April 2008, the Company raised \$9.9 million in cash through a warrant exchange and concurrent private placement of common stock (together, the Transaction). The investors in the Transaction were certain current investors who held existing warrants for the purchase of the Company's common stock issued previously in its October 2001 and October 2005 private placements. Investment banking fees and other offering expenses were approximately \$369,000.

In March 2006, the Company raised approximately \$40.0 million in gross proceeds in a registered direct offering involving the sale of approximately 4.9 million shares of common stock at a price of \$8.10 per share. Placement agency fees and other offering expenses were approximately \$2.7 million. These shares were offered pursuant to an effective registration statement that the Company had previously filed with the SEC.

Warrants

Warrants were issued in connection with the Company's CEFF (see Note 9).

In connection with the April 2008 Transaction discussed above, the Company entered into a warrant exercise agreement (the Warrant Exercise Agreement) pursuant to which the Company reduced the exercise prices of the investors' warrants to purchase the Company's common stock acquired in its October 2001 and October 2005 private placements to an exercise price of \$2.34 per share, in exchange for an irrevocable commitment by the investors to exercise such warrants at the closing. As a result of the Warrant Exercise Agreement, warrants for the purchase of 127,557 shares of the Company's common stock with a prior exercise price of \$8.70 per share and warrants for the purchase of 1,558,279 shares of the Company's common stock with a prior exercise price of \$6.74 per share were exercised at \$2.34 per share.

Additionally, in connection with the Transaction, the Company entered into a securities purchase agreement (the Securities Purchase Agreement) pursuant to which the Company issued and sold to the investors 2,485,103 shares of its common stock at an exercise price of \$2.34 per share, and warrants to purchase up to 1,057,196 shares of its common stock at an exercise price of \$2.69 per share (the Warrants). The Warrants are exercisable commencing six months after the Transaction date until April 16, 2013. At the closing, the investors paid an

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NOTES TO FINANCIAL STATEMENTS (Continued)

additional purchase price for the Warrants equal to \$0.125 per whole share issuable upon exercise of the Warrants. In connection with the Securities Purchase Agreement, the Company also entered into a registration rights agreement (the "Registration Rights Agreement") pursuant to which the Company granted to the investors certain registration rights relating to the securities issued and sold in the Securities Purchase Agreement. The Company filed a registration statement pursuant to the Registration Rights Agreement on May 9, 2008 and the SEC declared the registration statement effective on May 30, 2008.

Certain of the Company's existing stockholders, including entities affiliated with MPM Capital, Hale BioPharma Ventures and InterWest Partners, invested in the Transaction. Certain of such investors and/or their affiliates are parties to the Company's amended and restated investors rights agreement dated October 28, 2003. Luke B. Evnin, Ph.D., David F. Hale and Arnold L. Oronsky, Ph.D., members of the Company's board of directors, are associated with MPM Capital, Hale BioPharma Ventures and InterWest Partners, respectively.

The Company accounted for the Warrants issued under the Securities Purchase Agreement in accordance with EITF Issue No. 00-19. According to EITF Issue No. 00-19, the Warrants met all criteria within the guidance providing for the classification of these financial instruments as equity. The fair values of the Warrants were approximately \$1.5 million in aggregate and was determined using the Black-Scholes model using the following assumptions: risk-free interest rates of 3.02%; dividend yield of 0%; expected volatility of 81.9%; and a term of 5 years.

In conjunction with the October 2005 private placement offering, the Company issued warrants to purchase approximately 2.5 million shares of its common stock at an exercise price of \$6.74 per share. At the closing of the private placement offering, investors in the financing paid an additional price equal to \$0.125 per each share issuable upon exercise of the warrants which can be exercised until September 30, 2010. As discussed above, certain investors who held warrants issued in the 2005 private placement participated in the Transaction and exercised such warrants covering approximately 1,558,000 shares. At December 31, 2008, warrants issued in the 2005 private placement covering approximately 892,000 shares remained outstanding.

In conjunction with the 2001 Series D Preferred offering, the Company sold warrants to the Series D investors to purchase 3.5 million shares of Series D Preferred at a purchase price of \$0.01 per warrant resulting in proceeds of approximately \$35,000. The stock purchase warrants had an exercise price of \$8.69 per share. As discussed above, certain investors who held the 2001 Series D warrants participated in the Transaction and exercised such warrants covering approximately 128,000 shares. The remaining warrants issued in the 2001 offering expired in accordance with their terms on October 18, 2008.

In conjunction with the 2000 Series C Preferred offering, the Company sold warrants to the Series C investors to purchase 4.5 million shares of Series C Preferred at a purchase price of \$0.01 per warrant resulting in proceeds of approximately \$45,000. The stock purchase warrants had an exercise price of \$6.08 per share and expired on December 31, 2007 with 7,406 shares issued as a result of exercises during 2007.

Equity Incentive Plan

On June 21, 2004, the Company authorized 2,213,995 shares of its common stock for issuance upon exercise of options or restricted stock granted under the Equity Incentive Plan. Approximately 1,000,000, 1,000,000 and 915,000 shares were added to the Equity Incentive Plan on January 1, 2008, 2007 and 2006, respectively, pursuant to an evergreen provision contained in the Equity Incentive Plan. The Equity Incentive Plan provides for the grant of stock options and restricted stock to officers, directors, and employees of, and consultants and advisors to, the Company. Options under the Equity Incentive Plan may be designated as incentive stock options or non-statutory stock options, generally vest over four years and expire ten years from the date of grant. In addition, incentive stock options may not be granted at prices less than 100% of the fair

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value on the date of grant. The number of vested options available for exercise as of December 31, 2008 and 2007 were approximately 2,240,000 and 1,483,000, respectively.

There were no shares of common stock, originally issued pursuant to option exercises, outstanding at December 31, 2008 and 2007, respectively, that were subject to repurchase by the Company.

Directors' Stock Option Plan

On June 21, 2004, the Company authorized 300,000 shares of its common stock for issuance upon exercise of options or restricted stock granted under the Directors' Stock Option Plan. On each of January 1, 2008, 2007 and 2006, 100,000 shares were added to the plan pursuant to an evergreen provision contained in the Directors' Stock Option Plan. The Directors' Stock Option Plan provides for the grant of stock options and restricted stock to directors of the Company. Options under the Directors' Stock Option Plan are designated as non-statutory stock options, generally vest from one to two years, and expire ten years from the date of grant. In addition, options granted under the Directors' Stock Option Plan may not be granted at prices less than 100% of the fair value on the date of grant. The number of vested options available for exercise as of December 31, 2008 and 2007 were approximately 279,000 and 213,000, respectively.

Employee Stock Purchase Plan

On June 21, 2004, the Company authorized 500,000 shares of its common stock for issuance under the Employee Stock Purchase Plan. Approximately 375,000, 375,000 and 305,000 shares were added to the plan on January 1, 2008, 2007 and 2006, respectively, pursuant to an evergreen provision contained in the Employee Stock Purchase Plan. The Employee Stock Purchase Plan provides for all eligible employees to purchase shares of common stock at 85% of the lower of the fair market value on the first day of each two year offering period or any purchase date during such offering period (generally held every six months during such period). Employees may authorize the Company to withhold up to 15% of their total compensation during each six-month purchase period, subject to certain limitations to pay for the Employee Stock Purchase Plan shares. The following shares were issued under the Employee Stock Purchase Plan during the year ending December 31:

	Number of Shares Purchased	Weighted Average Price	Total Proceeds
2008	214,761	\$ 0.79	\$ 168,685
2007	205,941	\$ 2.91	599,366
2006	198,158	\$ 3.04	602,961
	618,860		\$ 1,371,012

Shares Reserved For Future Issuance

The following shares of common stock were reserved for future issuance at December 31, 2008:

Warrants to purchase shares in conjunction with the 2005 private placement	891,721
Warrants to purchase shares in conjunction with the CEFF	260,000
Warrants to purchase shares in conjunction with the venture debt	154,639
Warrants to purchase shares in conjunction with the 2008 private placement	1,057,196
Common stock options:	
Granted and outstanding	5,407,334

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Reserved for future issuance	529,571
Employee stock purchase plan	1,005,533
	9,305,994

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NOTES TO FINANCIAL STATEMENTS (Continued)

11. Income Taxes

On July 13, 2006, the FASB issued FIN No. 48 an interpretation of SFAS No. 109, *Accounting for Income Taxes*, to create a single model to address accounting for uncertainty in tax positions. FIN No. 48 clarifies the accounting for income taxes by prescribing a minimum recognition threshold in which a tax position be reached before financial statement recognition. FIN No. 48 also provides guidance on derecognition, measurement, classification, interest and penalties, accounting in interim periods, disclosure and transition. FIN No. 48 is effective for fiscal years beginning after December 15, 2006. The Company adopted FIN No. 48 as of January 1, 2007, as required. The adoption of this guidance did not have a material impact on the Company's results of operations or financial position.

At December 31, 2008, the Company had net deferred tax assets of \$81.5 million. These deferred tax assets are primarily comprised of net operating loss (NOL) and research and development (R&D) credit carryforwards, capitalized research and development costs, deferred revenue, deferred rent and stock-based compensation expense. Due to uncertainties surrounding the Company's ability to generate future taxable income to realize these assets, a full valuation has been established to offset the net deferred tax asset. Additionally, the future utilization of the Company's NOL and R&D Credit carryforwards to offset future taxable income may be subject to an annual limitation as a result of ownership changes pursuant to IRC Sections 382 and 383. For the year ended December 31, 2007, the Company removed the NOL and R&D Credit carryforwards from the deferred tax asset table because the Section 382 and 383 analysis had not been completed. For the year ended December 31, 2008, the Company completed a Section 382 and 383 analysis for the period from inception through December 31, 2008 and determined that, although multiple ownership changes have occurred, the Company will be able to utilize the total NOL and R&D Credit carryforwards that existed as of December 31, 2008, provided it generates sufficient future earnings. Accordingly, the Company re-established the deferred tax assets associated with the NOL and R&D Credit carryforwards and recorded a corresponding increase to the valuation allowance. Future ownership changes under Section 382 and 383 may limit the Company's ability to fully utilize these tax benefits.

Due to the existence of the valuation allowance, future changes in our unrecognized tax benefits will not impact the Company's effective tax rate. The Company is subject to taxation in the U.S. and state jurisdictions. The Company's tax years for 2000 and forward are subject to examination by the U.S. and California tax authorities due to the carryforward of unutilized NOL's and R&D credits. The Company is currently not under examination by any taxing authorities.

The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. During the year ended December 31, 2008, the Company did not recognize any interest or penalties. Upon adoption of FIN No. 48 on January 1, 2007, the Company did not record any interest or penalties.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

Significant components of the Company's deferred tax assets as of December 31, 2008 and 2007 are shown below (in thousands). A valuation allowance of \$81.5 million and \$11.7 million has been established at December 31, 2008 and 2007 respectively, to offset the net deferred tax assets as realization is uncertain.

	December 31,	
	2008	2007
Deferred tax assets:		
Capitalized R&D	\$ 32,904	\$ 8,654
Deferred revenue	3,321	538
Net operating loss carryforwards	33,287	
Research and development credits	9,472	
Other, net	2,532	2,498
Total deferred tax assets	81,516	11,690
Deferred tax liabilities:		
Deferred compensation		9
Valuation allowance for deferred tax assets	(81,516)	(11,699)
Net deferred assets	\$	\$

At December 31, 2008, the Company had federal and California NOL carryforwards of \$82.5 million and \$79.4 million, respectively, which begin to expire in 2019 and 2011, respectively, unless previously utilized, and federal and state R&D Credit carryforwards of \$6.0 million and \$5.2 million, respectively. The federal R&D Credit carryforwards begin to expire in 2019 and the state R&D Credit carryforwards do not expire. Pursuant to IRC Sections 382 and 383, use of our NOL and R&D credit carry forwards may be limited because of a cumulative change in ownership of more than 50%, which may occur in the future. The provision for income taxes on earnings subject to income taxes differs from the statutory Federal rate at December 31, 2008, 2007 and 2006, due to the following (in thousands):

	2008	2007	2006
Federal income taxes at 35%	\$ (14,810)	\$ (14,630)	\$ (11,644)
State income tax, net of Federal benefit	(2,172)	(2,156)	(1,751)
Tax effect on non-deductible expenses and credits	(276)	1,195	(305)
Increase in valuation allowance ⁽¹⁾	17,258	15,591	13,700
	\$	\$	\$

- (1) The removal and re-establishment of the valuation allowance related to the NOL's and R&D credits is not included in the increase in the valuation allowance. See above for explanation.

12. Employee Benefit Plan

The Company established a defined contribution employee retirement plan (the 401(k) Plan) effective January 1, 1999, conforming to Section 401(k) of the IRC. All full-time employees (as defined in the 401(k) Plan) may elect to have a portion of their salary deducted and contributed to the 401(k) Plan up to the maximum allowable limitations of the IRC, which may be matched by the Company in an amount determined by the Board of Directors. In 2007, the Board of Directors authorized a matching contribution up to 25% of employee contributions,

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subject to certain limitations, totaling approximately \$330,000 and \$255,000 for the years ended December 31, 2008 and 2007, respectively. Plan administration costs totaled \$6,525, \$6,875 and \$6,850 for the years ended December 31, 2008, 2007 and 2006, respectively.

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METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

13. Related Party Transactions

In April 2008, the Company raised \$9.9 million in cash through the Transaction, as described in Note 10. Certain of the Company's existing stockholders, including entities affiliated with MPM Capital, Hale BioPharma Ventures and InterWest Partners, invested in the Transaction. Certain of such investors and/or their affiliates are parties to the Company's amended and restated investors' rights agreement dated October 28, 2003. Luke B. Evnin, Ph.D., David F. Hale and Arnold L. Oronsky, Ph.D., members of the Company's board of directors, are associated with MPM Capital, Hale BioPharma Ventures and InterWest Partners, respectively. See Note 10 for further information.

In June 1999, the Company entered into an agreement with Sicor called the Master Agreement under which, among other things, the Company agreed to pay Sicor a 2% royalty on sales of products that are covered by a claim of an issued, valid and unexpired patent or a patent application, that was in existence or based on any discoveries or inventions in existence as of the Company's spin-off from Sicor, and 10% on any royalties the Company receives from licenses of these patents, patent applications, discoveries or inventions. The Company also agreed to pay Sicor a 1% royalty on sales of products that use, contain or are based on the Company's trade secrets, know-how and other proprietary rights in existence as of the Company's spin-off from Sicor that are not covered by the 2% royalty, and 5% of any royalties the Company receives from licenses of these trade secrets, know-how and other proprietary rights that are not covered by the 10% royalty. Some of the Company's current product candidates and drug compounds from our research programs may be subject to these royalty provisions. The determination of any potential obligations will be assessed at the time such products are commercially available.

14. Subsequent Events

Offer to Exchange Stock Options

On January 29, 2009, the Company completed an Offer to Exchange certain outstanding options to purchase shares of the Company's common stock, that were originally granted under the Company's Equity Incentive Plan and that had an exercise price that is equal to or greater than \$1.50 per share, for replacement options to purchase shares of the Company's common stock (the Offer). Eligible option holders included employees and scientific advisory board members. Subject to the participant's continued service with the Company, 25% of the shares underlying the replacement options will vest six months after the date the replacement options are granted and the remaining 75% of the shares will vest in equal monthly installments beginning on the date of grant of the replacement options so that the replacement options will be vested in full three years from the grant date of the replacement options.

Upon expiration of the Offer, the Company accepted elections to replace eligible stock options to purchase 1,831,887 shares of common stock, representing 64.3% of the shares subject to options that were eligible to be exchanged in the Offer. As a result, options to purchase 1,831,887 shares of common stock were immediately granted to the participants at an exercise price of \$1.00 per share, in accordance with the terms of the Offer. The closing sales price of the Company's common stock on January 29, 2009 was \$0.47 per share.

Restructuring Plan

On January 15, 2009, the Company committed to a restructuring plan that will result in the reduction of approximately 43% of the Company's workforce as of that date. In connection with the restructuring plan, the Company will focus on its clinical-stage product candidate, MB07811 for the treatment of hyperlipidemia, as well as on advancing its glucagon antagonist program and its second-generation TR Beta agonist program.

Table of Contents**METABASIS THERAPEUTICS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

Employees directly affected by the restructuring plan have received notification and will be provided with severance payments, continued benefits for a specified period of time and outplacement assistance. The Company expects to complete the restructuring plan by the end of the second quarter of 2009.

The Company anticipates incurring restructuring charges of approximately \$1.4 million, primarily associated with personnel-related termination costs. The majority of these costs will be recognized during the first quarter of 2009.

The severance-related charge that the Company expects to incur in connection with the restructuring is subject to a number of assumptions, and actual results may materially differ. The Company may also incur other material charges not currently contemplated due to events that may occur as a result of, or associated with, the restructuring plan.

15. Summary of Quarterly Financial Data (Unaudited)

The following is a summary of the quarterly results of operations for the years ended December 31, 2008 and 2007 (in thousands, except for net loss per share data):

	Quarters Ended				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year Ended Dec 31 ⁽¹⁾
2008					
Revenue	\$ 942	\$ 687	\$ 1,402	\$ 1,779	\$ 4,810
Research and development	9,745	9,667	8,480	8,464	36,356
General and administrative	2,519	2,569	2,659	3,004	10,751
Total operating expenses	12,264	12,236	11,139	11,468	47,107
Net loss	(11,100)	(11,542)	(9,834)	(9,838)	(42,314)
Basic and diluted net loss per share:	\$ (0.36)	\$ (0.34)	\$ (0.28)	\$ (0.28)	\$ (1.25)
2007					
Revenue	\$ 3,426	\$ 1,604	\$ 2,653	\$ 1,336	\$ 9,019
Research and development	9,506	11,065	10,866	9,478	40,915
General and administrative	3,264	3,186	2,834	3,158	12,442
Total operating expenses	12,770	14,251	13,700	12,636	53,357
Net loss	(8,505)	(11,935)	(10,480)	(10,879)	(41,799)
Basic and diluted net loss per share:	\$ (0.28)	\$ (0.40)	\$ (0.34)	\$ (0.35)	\$ (1.37)

(1) The sum of the four quarters may not necessarily agree to the year total due to rounding within a quarter.

Table of Contents**Metabasis Therapeutics, Inc.****Balance Sheets****(In thousands, except par value data)**

	September 30, 2009 (Unaudited)	December 31, 2008
Assets		
Current assets:		
Cash and cash equivalents	\$ 2,215	\$ 12,599
Securities available-for-sale		9,000
Assets held for sale	867	
Prepays and other current assets	1,002	1,091
Total current assets	4,084	22,690
Property and equipment, net		4,779
Other assets		273
Total assets	\$ 4,084	\$ 27,742
Liabilities and stockholders equity		
Current liabilities:		
Accounts payable	\$ 152	\$ 93
Accrued compensation	647	2,439
Accrued liabilities	406	1,798
Deferred revenue, current portion		5,652
Current portion of long-term debt		3,890
Current portion of capital lease obligations	35	26
Total current liabilities	1,240	13,898
Deferred revenue, net of current portion		2,499
Deferred rent		3,079
Long-term debt		4,658
Capital lease obligations, net of current portion		27
Other long-term liabilities		200
Total liabilities	1,240	24,361
Stockholders equity:		
Preferred stock, \$0.001 par value; 5,000 shares authorized at September 30, 2009 and December 31, 2008, no shares issued or outstanding		
Common stock, \$0.001 par value; 100,000 shares authorized at September 30, 2009 and December 31, 2008; 35,157 shares issued and outstanding at September 30, 2009 and December 31, 2008	35	35
Additional paid-in capital	197,654	195,640
Accumulated deficit	(194,845)	(192,326)
Accumulated other comprehensive income		32
Total stockholders equity	2,844	3,381
Total liabilities and stockholders equity	\$ 4,084	\$ 27,742

See accompanying notes.

Table of Contents**Metabasis Therapeutics, Inc.****Statements of Operations****(In thousands, except per share data)****(Unaudited)**

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2009	2008	2009	2008
Revenues:				
License fees	\$ 2,710	\$ 743	\$ 6,752	\$ 1,333
Sponsored research	173	659	1,732	1,698
Other	2,000		8,000	
Total revenues	4,883	1,402	16,484	3,031
Operating expenses:				
Research and development	400	8,480	11,240	27,892
General and administrative	2,086	2,659	7,488	7,747
Loss on lease termination	554		554	
Gain on sale of assets held for sale	(821)		(821)	
Total operating expenses	2,219	11,139	18,461	35,639
Income (loss) from operations	2,664	(9,737)	(1,977)	(32,608)
Other income (expense):				
Interest income		169	40	812
Interest expense	(2)	(266)	(789)	(680)
Miscellaneous income			207	
Total other (expense) income	(2)	(97)	(542)	132
Net income (loss)	\$ 2,662	\$ (9,834)	\$ (2,519)	\$ (32,476)
Basic and diluted net income (loss) per share	\$ 0.08	\$ (0.28)	\$ (0.07)	\$ (0.97)
Shares used to compute basic and diluted net income (loss) per share				
Basic	35,157	35,042	35,154	33,354
Diluted	35,162	35,042	35,154	33,354

See accompanying notes.

Table of Contents**Metabasis Therapeutics, Inc.****Statements of Cash Flows****(In thousands)****(Unaudited)**

	Nine Months Ended September 30,	
	2009	2008
Operating activities		
Net loss	\$ (2,519)	\$ (32,476)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	1,713	2,904
Depreciation and amortization	1,257	1,558
Deferred rent	105	369
Amortization of discount and premium on securities available-for-sale	(32)	(407)
Loss on disposal or abandonment of assets	987	29
Gain on assets held for sale	(821)	
Loss on lease termination	554	
Gain on accounts payable settlements	(293)	
Realized gain on securities available-for-sale		(7)
Change in operating assets and liabilities:		
Other current assets	669	(212)
Other assets	113	75
Deferred revenue	(8,151)	7,858
Accounts payable	352	(140)
Accrued compensation and other liabilities	(3,184)	(2,153)
Net cash flows used in operating activities	(9,332)	(22,602)
Investing activities		
Purchases of securities available-for-sale		(24,498)
Sales/maturities of securities available-for-sale	9,000	37,492
Payment related to lease termination	(2,484)	
Purchases of property and equipment		(516)
Proceeds from disposition of property & equipment	900	
Net cash flows provided by investing activities	7,416	12,478
Financing activities		
Issuance of common stock, net	2	9,673
Principal payments on debt and capital lease obligations	(8,552)	(1,581)
Proceeds received from debt		5,000
Net cash flows (used in) provided by financing activities	(8,468)	13,092
(Decrease) increase in cash and cash equivalents	(10,384)	2,968
Cash and cash equivalents at beginning of year	12,599	14,141
Cash and cash equivalents at end of period	\$ 2,215	\$ 17,109
Supplemental schedule of noncash investing and financing activities:		
Unrealized loss on securities available-for-sale	\$ (32)	\$ (44)

Accrued debt issuance costs	\$	\$	200
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See accompanying notes.

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Metabasis Therapeutics, Inc.

Notes to Financial Statements

(Unaudited)

1. Basis of Presentation

The accompanying unaudited financial statements have been prepared in accordance with U.S. generally accepted accounting principles (GAAP) and with the rules and regulations of the Securities and Exchange Commission (SEC) related to a quarterly report on Form 10-Q. Accordingly, they do not include all of the information and disclosures required by GAAP for complete financial statements. The balance sheet at December 31, 2008 has been derived from the audited financial statements at that date but does not include all information and footnotes required by GAAP for complete financial statements. The interim financial statements reflect all adjustments which, in the opinion of management, are necessary for a fair presentation of the financial condition and results of operations for the periods presented. Except as otherwise disclosed, all such adjustments are of a normal recurring nature.

Operating results for the three and nine months ended September 30, 2009 are not necessarily indicative of the results that may be expected for the year ending December 31, 2009. For further information, see the financial statements and notes thereto for the year ended December 31, 2008 included in our annual report on Form 10-K filed with the SEC.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities as well as disclosures of contingent assets and liabilities at the date of the financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The terms Company and we and our are used in this report to refer to Metabasis Therapeutics, Inc.

2. Proposed Merger with Ligand Pharmaceuticals Incorporated

Merger Agreement

On October 26, 2009, the Company entered into an Agreement and Plan of Merger (as amended, the Merger Agreement) with Ligand Pharmaceuticals Incorporated, a Delaware corporation (Ligand), Moonstone Acquisition, Inc., a Delaware corporation and a wholly-owned subsidiary of Ligand (Merger Sub) and David F. Hale as Stockholders Representative. The Merger Agreement provides that Merger Sub will be merged with and into the Company (the Merger), with the Company continuing as the surviving corporation and a wholly-owned subsidiary of Ligand.

Under the terms of the Merger Agreement, at the effective time of the Merger (Effective Time), each outstanding share of the Company s common stock (other than shares held by Ligand, Merger Sub or the Company or by stockholders of the Company who have validly exercised their appraisal rights under Delaware law) will be converted into the right to receive (a) a proportionate share of a closing cash payment equal to \$3,207,500 less \$150,000, which is to be contributed to an account to cover the costs, expenses and compensation of the Stockholders Representative fund, and either (i) plus the amount that the Net Cash Amount (as defined in the Merger Agreement) of the Company exceeds the Target Net Cash Amount (as defined in the Merger Agreement) at the closing of the Merger or (ii) less the amount that the Net Cash Amount of the Company is less than the Target Net Cash Amount at the closing of the Merger; (b) one Roche CVR (as described below); (c) one TR Beta CVR (as described below); (d) one Glucagon CVR (as described below); and (e) one General CVR (as described below).

The parties have made customary representations, warranties and covenants in the Merger Agreement, including among other things, covenants (a) to conduct their respective businesses in the ordinary course between

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

the date of the Merger Agreement and the Effective Time, (b) that Ligand will prepare and file with the Securities and Exchange Commission (the SEC) a registration statement on Form S-4 in which the Company's proxy statement will be included as a prospectus; (c) for the Company to solicit proxies and cause a special meeting of the stockholders of the Company to be held to adopt the Merger Agreement and the transactions contemplated thereunder; (d) subject to certain exceptions which permit the Company's board of directors (the Board) to withdraw its recommendation if failure to do so would be inconsistent with its fiduciary obligations, for the Board to recommend that the stockholders of the Company adopt the Merger Agreement; (e) for the Company not to (i) solicit proposals relating to alternative transactions or (ii) subject to certain exceptions which permit the Board to discuss certain unsolicited proposals for alternative transactions received from third parties if failure to do so would be inconsistent with its fiduciary obligations, enter into discussions concerning, or provide information in connection with, alternative transactions; and (f) for Ligand to honor the terms of the existing severance agreements and certain indemnification obligations of the Company. Additionally, Ligand has agreed to invest an aggregate of at least \$8 million in research, development or commercialization expenses in furtherance of the Company's drug programs prior to the 4th month anniversary of the Effective Time.

Pursuant to the terms of the Merger Agreement, David F. Hale will act as Stockholders' Representative and (a) negotiate and settle disputes arising under the Merger Agreement, (b) accept delivery of notices, (c) monitor fulfillment of Ligand's \$8 million in funding obligations, (d) confirm satisfaction of Ligand's obligations under the CVR Agreements (described below) and (e) negotiate and settle matters with respect to the amounts to be paid to the holders of the CVRs (described below).

The consummation of the Merger is subject to certain customary conditions, including, without limitation, (a) the approval of the Merger Agreement and the transactions contemplated thereunder by the stockholders of the Company; (b) the absence of any legal prohibitions on the closing of the Merger; (c) subject to certain exceptions, the continued accuracy of the Company's and Ligand's representations and warranties as of the Effective Time; (d) the absence of any development or event since the date of the Merger Agreement that has had or would reasonably be expected to have, individually or in the aggregate, a material adverse effect on either the Company (in the case of Ligand's obligation to close) or Ligand (in the case of the Company's obligation to close); (e) the effectiveness of the registration statement relating to the CVRs to be issued in the Merger; (f) obtaining required consents; and (g) no more than 1,750,000 shares of Company common stock being eligible to assert dissenters' rights.

Under the Merger Agreement, each of Ligand and the Company has certain rights to terminate the Merger Agreement and the Merger, including (a) by either party, if the Merger has not been consummated on or prior to February 15, 2010, subject to certain exceptions; (b) by either party, if the required stockholder approval is not obtained; (c) by Ligand, if the Board changes its recommendation regarding the Merger Agreement and the Merger; and (d) by the Company, if the Board validly accepts a superior proposal. If (i) Ligand or the Company terminates the Merger Agreement in the event the Merger does not occur by February 15, 2010 (as may be extended) and/or the stockholder vote is not obtained and (ii) Ligand has not materially breached any of the representations and warranties in the Merger Agreement and (iii) an acquisition proposal shall have been made prior to the termination of the Merger Agreement and within 12 months after the date of termination of the Merger Agreement the Company consummates any acquisition transaction, the Company shall pay Ligand a termination fee of \$250,000. In the event that either (A) Ligand terminates the Merger Agreement after a change in the Board recommendation or because the Company breaches its representations, warranties and other covenants in the Merger Agreement or (B) the Company terminates the Merger Agreement to pursue a superior proposal, then the Company shall pay Ligand a termination fee of \$400,000.

The Merger Agreement contains representations and warranties that the parties to the Merger Agreement made to and solely for the benefit of each other. The assertions embodied in such representations and warranties

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

are qualified by information contained in the confidential disclosure schedules that the Company delivered to Ligand in connection with signing the Merger Agreement. Moreover, certain representations and warranties in the Merger Agreement were used for the purpose of allocating risk between the Company and Ligand, rather than establishing matters of fact. Accordingly, investors and stockholders should not rely on such representations and warranties as characterizations of the actual state of facts or circumstances, since they were only made as of the date of the Merger Agreement and are modified in important part by the underlying disclosure schedules. Additionally, information concerning the subject matter of such representations and warranties may change after the date of the Merger Agreement, which subsequent information may or may not be fully reflected in the Company's public disclosures.

Voting Agreements

On October 26, 2009, in connection with the Merger Agreement, Ligand entered into voting agreements with the Company's officers and directors and certain significant stockholders of the Company who together represented approximately 29% of the Company's outstanding shares of common stock as of October 26, 2009. Under the terms of the voting agreement, each of the above parties agreed to vote, and irrevocably appointed Ligand as its proxy to, among other matters, vote, all outstanding shares of the Company's common stock beneficially held by such party as of the record date (a) in favor of the approval of the Merger and adoption of the Merger Agreement; (b) against any other acquisition proposal or superior proposal; and (c) except as otherwise agreed to in writing in advance by Ligand, against any proposal or transaction which would reasonably be expected to prevent or delay the consummation of the Merger or the Merger Agreement. Under the terms of the voting agreement, each such party agreed not to exercise any appraisal rights or any dissenters' rights that such party may have or could potentially have in connection with the Merger Agreement and the transactions contemplated by the Merger Agreement.

Contingent Value Rights Agreements

At the closing of the Merger, Ligand, the Company, David F. Hale as Stockholders' Representative and Mellon Investor Services LLC, as Rights Agent, will enter into four Contingent Value Rights Agreements (the "CVR Agreements"). The CVR Agreements will set forth the rights that holders of the CVRs will have with respect to each CVR (as defined in the Merger Agreement) held by them after the closing of the Merger. As described above under Merger Agreement, each eligible Company stockholder will receive one CVR under each of the four CVR Agreements for each share of Company common stock held at the closing of the Merger. The CVRs will be registered under a registration statement to be filed with the SEC by Ligand on a Form S-4 and will, in general, be tradable.

Roche CVR Agreement

Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders' Representative fund), holders of the Roche CVRs (as defined in the Roche CVR Agreement), will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts:

65% of any milestone payments received by Ligand or the Company after October 1, 2009 under a collaboration and license agreement with Hoffmann-La Roche Inc. and its affiliates (the "Roche Agreement");

68% of any royalty payments received by Ligand or the Company after October 1, 2009 under the Roche Agreement;

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

65% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand or the Company after October 1, 2009 in connection with a sale or transfer of the Roche Agreement rights (including royalty rights, milestone payment rights or rights to all or any portion of a drug candidate or technology licensed pursuant to the Roche Agreement); and

a proportionate share of any amounts distributed to the holders of CVRs from the Stockholders Representative fund.

TR Beta CVR Agreement

Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the TR Beta CVRs (as defined in the TR Beta CVR Agreement), will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts:

(a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the TR Beta Program (as defined in the TR Beta CVR Agreement) prior to the sixth anniversary of the Effective Time, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the TR Beta Program after the sixth anniversary of the Effective Time and prior to the seventh anniversary of the Effective Time, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the TR Beta Program after the seventh anniversary of the Effective Time and prior to the eighth anniversary of the Effective Time or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the TR Beta Program after the eighth anniversary of the Effective Time and prior to the tenth anniversary of the Effective Time; and

a proportionate share of any amounts distributed to the holders of CVRs from the Stockholders Representative fund.

Glucagon CVR Agreement

Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the Glucagon CVRs (as defined in the Glucagon CVR Agreement), will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts:

(a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the Glucagon Program (as defined in the Glucagon CVR Agreement) prior to the sixth anniversary of the Effective Time, (b) 40% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the Glucagon Program after the sixth anniversary of the Effective Time and prior to the seventh anniversary of the Effective Time, (c) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the Glucagon Program after the seventh anniversary of the Effective Time and prior to the eighth anniversary of the Effective Time or (d) 20% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

transactions related to the Glucagon Program after the eighth anniversary of the Effective Time and prior to the tenth anniversary of the Effective Time; and

a proportionate share of any amounts distributed to the holders of CVRs from the Stockholders Representative fund.

General CVR Agreement

Subject to certain adjustments (including the required payments of certain contingent liabilities and contributions to the Stockholders Representative fund), holders of the General CVRs (as defined in the General CVR Agreement), will receive (if and when payable on the January 1st or July 1st following the triggering payment event), the following payouts:

(a) 50% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each deal related to the DGAT-1 Program, FB Pase Inhibitor Program, GK Program, Pradefovir Program, HepDirect Program (each as defined in the General CVR Agreement) or certain other Metabasis drug development programs until such time as Ligand makes research and/or development investments in excess of \$700,000 on such program or (b) 25% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with each deal related to the DGAT-1 Program, FB Pase Inhibitor Program, GK Program, Pradefovir Program, HepDirect Program or certain other Metabasis drug development programs after such time as Ligand makes research and/or development investments in excess of \$700,000 on such program;

(a) 90% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the 7133 Program (as defined in the General CVR Agreement) that occur after October 1, 2009 and within six months after the Effective Time, (b) 30% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the 7133 Program that occur after the sixth month anniversary of the Effective Time and prior to the two year anniversary of the Effective Time or (c) 10% of any aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with transactions related to the 7133 Program that occur after the two year anniversary of the Effective Time and prior to the ten year anniversary of the Effective Time;

60% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with (a) any sale of certain shares of PeriCor Therapeutics, Inc. stock held by the Company, (b) any milestone payments or royalty payments payable pursuant to certain PeriCor Agreements (as defined in the General CVR Agreement) or (c) any full or partial sale or transfer of any rights to receive such milestone payments or royalty payments or all or any portion of a drug candidate or technology from the drug development program licensed pursuant to certain PeriCor Agreements;

the amount of any shortfall of Ligand's guaranteed funding obligations under the Merger Agreement;

50% of the aggregate proceeds (less reasonable out of pocket transactional expenses and costs incurred by Ligand) received by Ligand in connection with any sale of the Company's QM/MM Technology (as defined in the General CVR Agreement); and

a proportionate share of any amounts distributed to the holders of CVRs from the Stockholders Representative fund.

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Table of Contents**Metabasis Therapeutics, Inc.****Notes to Financial Statements (Continued)****(Unaudited)****3. Going Concern**

As of September 30, 2009 the Company's accumulated deficit totaled \$194.8 million. In July 2009, the Company entered into an agreement with a third party to sell its laboratory and office equipment (see Note 11), under which the Company is entitled to receive a minimum of \$1.5 million in proceeds through October 2009 as the assets are sold, subject to reduction in the event of earlier termination of the agreement. In addition, the Company terminated its lease for its corporate headquarters (see Note 4), thereby reducing its future cash operating needs. On October 26, 2009, the Company entered into the Merger Agreement. After considering the impact of these recent transactions, and together with the cash available at September 30, 2009, the Company expects its existing working capital to fund its current operations through March 2010 or, if sooner, the completion of the Merger. In the event the Merger is not completed and the Company is otherwise unable to secure additional resources, including through another strategic transaction, it will be required to cease operations entirely. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements have been prepared on a going concern basis that contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The financial statements do not include adjustments to reflect the possible future effects on the recoverability and classification of recorded assets or the amounts of liabilities that might be necessary should the Company be unable to continue as a going concern.

4. Lease Termination

On July 21, 2009, the Company entered into an Agreement for Termination of Lease and Voluntary Surrender of Premises (as amended, the Termination Agreement) with ARE-SD Region No. 24, LLC (Owner) to terminate the Lease Agreement, dated December 21, 2004, by and between the Company and Owner, as amended pursuant to a First Amendment to Lease Agreement dated May 16, 2006 (the Lease Agreement). The Lease Agreement governed the terms and conditions for the use of the facilities the Company occupies as its corporate offices. Under the Lease Agreement the Company was obligated to make future payments to the Owner for a base monthly rent and operating expenses totaling \$25.7 million between August 2009 and October 2015.

Pursuant to the terms of the Termination Agreement, the Lease Agreement terminated effective July 21, 2009 (the Termination Date) and the Owner granted the Company a license for continued use of the facilities (License). The License will automatically expire on the earlier to occur of: (i) January 2, 2010 or (ii) upon receipt of a 30 day notice of termination from the Owner to the Company. In consideration of the early termination of the Lease Agreement, the Company agreed to the following: (i) to pay the Owner a fee of \$2.5 million on the Termination Date, (ii) to pay up to an additional \$1.5 million to be paid as 35% of the gross revenues earned by the Company from licenses, collaboration arrangements or sales of the Company's existing pipeline of therapeutic programs entered into or effected during the period commencing July 1, 2009 and ending September 30, 2013, provided that the proceeds from these revenue generating events have been received by the Company, (iii) to grant the Owner a warrant to purchase 1.0 million shares of the Company's common stock at \$0.41 per share, (iv) to surrender and forfeit the \$152,356 security deposit to the Owner and (v) to transfer certain assets to the Owner consisting of leasehold improvements and furniture. The Termination Agreement excuses both the Company and the Owner from any further material obligations with respect to the Lease Agreement as of the Termination Date, including the outstanding balance of tenant improvement loans due to the Owner of approximately \$0.2 million at July 31, 2009. As a result of this transaction, the Company recorded a net loss of approximately \$0.6 million during the three months ended September 30, 2009, which includes accounting for the considerations discussed above as well as writing off the deferred rent from the balance sheet.

Table of Contents**Metabasis Therapeutics, Inc.****Notes to Financial Statements (Continued)****(Unaudited)****5. Accounts Payable Settlements**

During the three months ended September 30, 2009, the Company entered into a series of settlement agreements with certain vendors, in which the Company settled approximately \$0.9 million of its outstanding accounts payable at September 30, 2009 for an aggregate settlement amount of approximately \$0.6 million. These settlements resulted in a gain of \$0.3 million during the three months ended September 30, 2009, all of which was recorded as a credit to research and development expenses.

6. Comprehensive Loss

All components of comprehensive income (loss), including net income (loss), must be reported in the financial statements in the period in which they are recognized. Comprehensive income (loss) is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources. The Company's comprehensive income (loss) is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2009	2008	2009	2008
Net income (loss)	\$ 2,662	\$ (9,834)	\$ (2,519)	\$ (32,476)
Unrealized gain (loss) on available-for-sale investments		10	(32)	(44)
Comprehensive income (loss)	\$ 2,662	\$ (9,824)	\$ (2,551)	\$ (32,520)

7. Net Loss Per Share

Basic earnings per share (EPS) is calculated by dividing net income (loss) by the weighted average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted EPS is computed by dividing net income (loss) by the weighted average number of common share equivalents outstanding for the period determined using the treasury-stock method. For purposes of this calculation, common stock subject to repurchase by the Company, options and warrants are considered to be common stock equivalents and are only included in the calculation of diluted EPS when their effect is dilutive. The total number of shares issuable upon exercise of stock options and warrants excluded from the calculation of diluted EPS since they are anti-dilutive were 7,143,993 and 7,906,668 for the three months ended September 30, 2009 and 2008, respectively, and 7,237,101 and 7,580,525 for the nine months ended September 30, 2009 and 2008, respectively. There are 5,000 shares issuable upon the exercise of options that are dilutive for the three months ended September 30, 2009 as included below.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2009	2008	2009	2008
	(in thousands, except per share data)		(in thousands, except per share data)	
Actual:				
<i>Numerator:</i>				
Net income (loss)	\$ 2,662	\$ (9,834)	\$ (2,519)	\$ (32,476)
<i>Denominator:</i>				
Weighted average common shares:				
Basic	35,157	35,042	35,154	33,354

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Diluted	35,162	35,042	35,154	33,354
Basic and diluted net income (loss) per share	\$ 0.08	\$ (0.28)	\$ (0.07)	\$ (0.97)

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

8. Collaboration Agreements

The Company has entered into various collaboration agreements which provide collaboration partners access to certain know-how, technology and patent rights maintained by the Company in exchange for the rights to participate in the research and under certain terms development and/or co-promotion of products, if successfully developed through these arrangements. Terms of the various collaboration agreements entitle the Company to receive up-front license fees, milestone payments upon the achievement of certain product research and development objectives and royalties on future sales, if any, of commercial products resulting from the collaboration.

The Company evaluated its collaborative agreements for proper income statement classification based on the nature of the underlying activity. Amounts due from collaborative partners related to research and development activities are generally reflected as sponsored research revenues if the proceeds are provided for research services performed or license fee revenues if the proceeds are provided for rights and access to certain know-how, technology and patent rights maintained by the Company.

Roche

The Company maintains a Research Collaboration and License Agreement with Hoffmann-La Roche Inc., F. Hoffmann-La Roche Ltd. and Roche Palo Alto LLC (collectively, *Roche*). The collaboration operates as an agreement rather than a joint venture or other legal entity. The Company's HepDirect liver-targeted technology is applied to proprietary Roche compounds to develop second-generation nucleoside analog drug candidates for treating hepatitis C virus. The Company provides a non-exclusive worldwide license to its proprietary know-how and technology to Roche through contracted research and development services during the research phase of this collaboration. By June 2009, a development candidate was identified and Roche has assumed all development responsibility. The Company will be eligible to receive up to \$191.0 million in additional payments upon achievement of predetermined preclinical and clinical development events as well as regulatory and commercialization events. Roche will retain full commercial rights for any marketed products resulting from the collaboration and will pay the Company a royalty on net sales of such products.

The Company received a non-refundable upfront payment of \$10.0 million from Roche in August 2008, of which \$8.3 million was to be recognized as license fee revenue and \$1.7 million was to be recognized as sponsored research revenue. The Company generally recognizes the upfront, nonrefundable fee over the period the related services are provided. Amounts received for sponsored research funding for a specific number of full-time researchers are generally recognized as revenue as the services are provided.

Table of Contents**Metabasis Therapeutics, Inc.****Notes to Financial Statements (Continued)****(Unaudited)**

As a result of the Company's restructuring in May 2009 (see note 10), Roche did not extend the research term beyond the first year, and the Company accelerated the recognition of the unamortized license fee through the end of the one-year research period in August 2009. On June 1, 2009, the Company entered into a letter agreement with Roche, which provided for the early payment by Roche of a \$2.0 million milestone payment to the Company, on or before June 1, 2009. Pursuant to the letter agreement, the payment of this milestone was accelerated in exchange for certain know-how that the Company was obligated to provide to Roche within 30 days of receipt of the payment. All other terms of the Collaboration Agreement are unchanged and remain in effect. The Company recognized the \$2.0 million of milestone revenue in July 2009 when all know-how was transferred. The Company recognized the following revenues and costs related to this collaboration (in thousands):

	Three Months Ended		Nine Months Ended	
	September 30, 2009	September 30, 2008	September 30, 2009	September 30, 2008
License fee revenue	\$ 2,710	\$ 692	\$ 6,649	\$ 692
Sponsored research revenue	173	283	1,023	283
Other	2,000		2,000	
	\$ 4,883	\$ 975	\$ 9,672	\$ 975
Research and development costs	\$	\$ 247	\$ 282	\$ 247

As of September 30, 2009, there was no deferred revenue reflected on the balance sheet relating to this collaboration.

Merck

The Company maintains a collaboration agreement with Merck & Co. (Merck), to research, develop and commercialize novel small molecule therapeutics with the potential to treat type 2 diabetes, and potentially other metabolic diseases, by activating an enzyme in the liver called AMP-activated Protein Kinase. The collaboration operates as an agreement rather than a joint venture or other legal entity. The Company is providing research and preclinical services on jointly identified compounds for the potential treatment of type 2 diabetes and potentially other metabolic diseases. Merck is solely responsible for conducting and funding all development work for compounds resulting from this collaboration. The Company maintains an option to co-promote any such product in the United States.

As part of this collaboration, Merck paid an initial non-refundable license fee of \$5.0 million in July 2005 and provided research support funding of approximately \$6.3 million over the three-year research term. The three-year research term is subject to renewal for one additional year upon the parties' mutual agreement. In April 2008, the research term was extended for an additional year, through June 2009. The Company received \$1.5 million over the course of the one year extension to support the research efforts. Under the original collaboration agreement, Merck was also obligated to pay milestone payments if specified preclinical and clinical development and regulatory events occur and pay royalties on sales of any product resulting from this collaboration. If all preclinical and clinical milestones were achieved on multiple indications, and including the \$5.0 million initial, non-refundable license fee and the minimum \$7.8 million in research support funding, the Company would have been entitled to payments totaling up to \$75.8 million, plus royalties.

On June 9, 2009 the Company and Merck amended the License and Collaboration Agreement providing for a one-time, non refundable payment by Merck of \$6.0 million to the Company to satisfy all potential future milestone and royalty payments payable by Merck. All other material terms of the Collaboration Agreement are unchanged and remain in effect. The research period under this collaboration ended on June 30, 2009 and the

Table of Contents**Metabasis Therapeutics, Inc.****Notes to Financial Statements (Continued)****(Unaudited)**

Company maintains no further material performance obligations to Merck in connection with the License and Collaboration Agreement and therefore recognized the \$6.0 million payment upon receipt in June 2009.

The Company recognizes the upfront, nonrefundable fee over the period the related services are provided. Amounts received for sponsored research funding are recognized as revenues as the services are performed. The Company recognized the following revenues and costs related to this collaboration (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2009	2008	2009	2008
License fee revenue	\$	\$ 52	\$ 103	\$ 642
Sponsored research revenue		375	709	1,414
Other			6,000	
	\$	\$ 427	\$ 6,812	\$ 2,056
Research and development costs	\$	\$ 399	\$ 522	\$ 1,074

As of September 30, 2009, there was no deferred revenue reflected on the balance sheet relating to this collaboration.

9. Offer to Exchange Stock Options

On January 29, 2009, the Company completed an Offer to Exchange certain outstanding options to purchase shares of the Company's common stock, that were originally granted under the Company's Amended and Restated Equity Incentive Plan and that had an exercise price that is equal to or greater than \$1.50 per share, for replacement options to purchase shares of the Company's common stock (the Offer). Eligible option holders included employees and scientific advisory board members. Subject to the participant's continued service with the Company, 25% of the shares underlying the replacement options vest six months after the date the replacement options were granted and the remaining 75% of the shares vest in equal monthly installments beginning on the date of grant of the replacement options so that the replacement options will be vested in full three years from the grant date of the replacement options.

Upon expiration of the Offer, the Company accepted elections to replace eligible stock options to purchase 1,831,887 shares of common stock, representing 64.3% of the shares subject to options that were eligible to be exchanged in the Offer. As a result, options to purchase 1,831,887 shares of common stock were immediately granted to the participants at an exercise price of \$1.00 per share, in accordance with the terms of the Offer. The closing sales price of the Company's common stock on January 29, 2009 was \$0.47 per share.

The Company accounted for the Offer as a short-term inducement and recognized \$0 and \$83,000 of additional compensation expense during the three and nine months ended September 30, 2009, representing the incremental fair value for those options that were exchanged for new options.

10. Corporate Restructurings

In November 2008, the Company committed to a restructuring plan that resulted in the reduction of approximately 30% of the Company's workforce. The restructuring was a result of a strategic realignment of the Company to preserve cash and reduce on-going operating expenses. Employees directly affected by the restructuring plan received notification and were provided with severance payments, retention bonuses, where applicable, continued benefits for a specified period of time and outplacement assistance. The Company completed this restructuring plan in March 2009.

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

The Company recorded charges of \$0 and \$0.1 million for the three and nine months ended September 30, 2009 related to the November 2008 restructuring, all of which were recorded in research and development expense. Since November 2008, the Company incurred restructuring charges of approximately \$1.5 million related to the November 2008 restructuring, of which \$1.2 million were recorded in research and development expense and \$0.3 million were recorded in general and administrative expense. All charges were primarily associated with personnel-related termination costs. The Company did not incur any expense related to contractual or lease obligation or other exit costs. The Company does not anticipate incurring any additional charges related to this restructuring.

On January 15, 2009, the Company committed to another restructuring plan that resulted in the further reduction of approximately 43% of the Company's workforce. In connection with this restructuring plan, the Company narrowed its research and development activities to focus on its clinical-stage product candidate, MB07811 for the treatment of hyperlipidemia, as well as on advancing its glucagon antagonist program and its second-generation TR Beta agonist program. Employees directly affected by this restructuring plan received notification and were provided with severance payments, retention bonuses, where applicable, continued benefits for a specified period of time and outplacement assistance. The Company incurred none and \$0.3 million during the three and nine months ended September 30, 2009 of impairment charges primarily related to scientific equipment and other assets which were abandoned or disposed of. The Company completed this restructuring plan in the third quarter of 2009.

The Company recorded charges of none and \$1.5 million for the three and nine months ended September 30, 2009 related to the January 2009 restructuring, of which \$1.3 million and \$0.2 million were recorded in research and development expense and general and administrative expense for the nine months ended September 30, 2009, respectively. The severance-related charge that the Company expected to incur in connection with the January 2009 restructuring was subject to a number of assumptions, and actual results differed. The increase in the actual amount of restructuring charges incurred of \$1.5 million compared to the originally anticipated amount of \$1.4 million was due to employees remaining with the Company longer than originally planned. The Company does not anticipate incurring any additional charges related to this restructuring. All charges were primarily associated with personnel-related termination costs. The Company did not incur any expense related to contractual or lease obligation or other exit costs.

On May 26, 2009, the Company committed to a third restructuring plan that resulted in the reduction of 45 employees, or approximately 85% of the Company's workforce. This restructuring was intended to further preserve cash and reduce ongoing operating expenses, providing the Board of Directors additional time to evaluate strategic alternatives. All research and development activities were discontinued. The seven remaining employees, primarily consisting of the current officers of the Company, continued to pursue the monetization of its product pipeline and equipment while assisting the Board of Directors in the evaluation of its other strategic alternatives. Initially, it was not anticipated that the Company would incur any material costs associated with this restructuring. However, during the third quarter of 2009, the Company provided the employees associated with the May 2009 restructuring the option to enter into a release agreement, under which each employee who entered into such agreement would receive certain severance benefits. The Company recorded \$0.2 million during the three months ended September 30, 2009 related to the May 2009 restructuring, of which \$0.1 million was recorded in both research and development expense and general and administrative expense. For the nine months ended September 30, 2009, the Company recorded \$0.4 million of expense related to this restructuring, of which \$0.1 million was recorded in general and administrative expense and \$0.3 million was recorded in research and development expense. The release agreement also provides for additional severance benefits if the Company reaches certain business development milestones between the date of the release agreement and May 26, 2010. If

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the Company reaches one milestone, the Company will incur approximately \$0.6 million of additional severance expense. If the Company reaches both the first and second milestones, the Company will incur an incremental \$0.5 million severance expense for a total of \$1.1 million in additional severance expense.

In connection with the cessation of all research and development activities under the May 2009 restructuring, the Company incurred \$0.2 million and \$0.7 million in impairment charges primarily related to scientific equipment and other assets previously utilized in its research and clinical development activities for the three and nine months ended September 30, 2009, respectively. These assets are now classified as assets held for sale on the Company's balance sheet (see Note 11). It also recorded \$0.6 million in contract termination costs for the three and nine months ended September 30, 2009 primarily associated with terminating the Company's facility lease in July 2009 (see Note 4).

Below is a reconciliation of amounts related to all restructuring plans that remain on the balance sheet as of September 30, 2009:

	Employee Severance and Related Benefits (in thousands)
Accrual balance at December 31, 2007	\$
Accruals	1,483
Payments	(901)
Accrual balance as of December 31, 2008	\$ 582
Accruals	1,559
Payments	(2,137)
Accrual balance as of September 30, 2009	\$ 4

The following details the restructuring charges incurred inclusive of severance and related benefits and other costs (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2009	2008	2009	2008
Research and development	\$ 339	\$	\$ 2,400	\$
General and administrative	75		518	
Loss on lease termination	554		554	
	\$ 968	\$	\$ 3,472	\$

11. Impairment and Disposal of Long-Lived Assets and Assets Held for Sale

If indicators of impairment exist, the Company assesses the recoverability of the affected long-lived assets by determining whether the carrying value of such assets can be recovered through undiscounted future operating cash flows. An impairment loss is recognized when the carrying

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amount of the long-lived asset is not recoverable and exceeds its fair value. The impairment charge is recorded as a reduction to the carrying value of the related asset and to operating expense. In the instance where a long-lived asset is to be abandoned it is disposed of when it ceases to be used. The Company revises its estimates for depreciation based on the plan of disposal or when the Company ceases to use such assets.

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

In connection with the Company's corporate restructuring during the first quarter of 2009, the Company began the process of disposing and/or discontinuing the use of various lab equipment, office equipment and furniture resulting in impairment charges of \$0 and \$0.3 million within research and development expenses for the three and nine months ended September 30, 2009.

In connection with the Company's corporate restructuring during the second quarter of 2009, the Company began the process of discontinuing the use of various lab equipment, office equipment and furniture resulting in impairment charges of \$0 and \$0.5 million of impairment charges for the three and nine months ended September 30, 2009. Of the \$0.5 million impairment charge for the nine months ended September 30, 2009, \$0.4 million and \$0.1 million were recorded within research and development expenses and general and administrative expenses, respectively. Impairment losses on long-lived assets to be held and used are reflected as a permanent write-down of the cost basis of the affected assets. The previously recorded depreciation on the impaired long-lived assets will be eliminated and a new life will be used to determine the depreciation of the revised cost basis of the assets.

The Company utilized quoted market prices to establish the fair value of these assets. The Company utilized quoted prices for similar items in active markets as determined by an independent third party (i.e. broker). Based on the Company's estimated future cash flows, a change in the estimated useful life of these assets was deemed to be seven months (through December 2009). Additionally, as all research and development activities ceased in May 2009, all depreciation costs will be reflected as costs associated with general and administrative activities.

In July 2009, the Company's management entered into an agreement to terminate the lease for the use of its corporate offices (see Note 4). In connection with this agreement, the Company transferred all leasehold improvements and furniture to the landlord. In addition, the Company entered into an agreement with EquipNet to facilitate the sale of the Company's lab equipment and certain of its office equipment. The agreement provides for EquipNet to receive a pre-determined commission for proceeds generated from the sale of these assets. Amounts were payable to the Company from EquipNet in periodic installments through October 2009 for the first \$1.5 million of proceeds. All proceeds in excess of \$1.5 million due to the Company will be paid as earned.

The assets under the EquipNet agreement met the criteria for being classified as held for sale. As such, the assets are measured at the lower of their carrying value or the fair value less cost to sell, and are reclassified and stated separately on the balance sheet. On the effective date of the EquipNet agreement, the carrying value of the assets was \$1.7 million and the fair value less the cost to sell was \$1.5 million based on the market quoted prices the Company received from the broker. As a result, the Company recorded an impairment charge of \$0.2 million during the three months ended September 30, 2009 and reclassified the \$1.5 million to assets held for sale presented separately on the balance sheet. No further depreciation expense will be recognized on these assets.

During the three months ended September 30, 2009, EquipNet sold assets with an aggregate carrying value of approximately \$0.6 million for proceeds of approximately \$1.5 million resulting in a gain of \$0.8 million, net of selling costs. As of September 30, 2009, the remaining carrying value of assets held for sale was \$0.9 million. Pursuant to the terms of the agreement with EquipNet, the sale of the lab and office equipment is expected to be completed in November 2009.

12. Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board (the "FASB"), issued Statement of Financial Accounting Standard No. 168, *The FASB Accounting Standards Codification and the Hierarchy of Generally Accepted Accounting Principles, a replacement of FASB Statement No. 162* ("SFAS No. 168"). Effective for financial statements issued for interim and annual periods ending after September 15, 2009, the *FASB Accounting*

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Notes to Financial Statements (Continued)

(Unaudited)

Standards Codification (Codification) will become the source of authoritative U.S. GAAP recognized by the FASB to be applied by nongovernmental entities. Rules and interpretive releases of the SEC under authority of federal securities laws are also sources of authoritative GAAP for SEC registrants. On the effective date, the Codification will supersede all existing non-SEC accounting and reporting standards. All other non-grandfathered, non-SEC accounting literature not included in the Codification will become non-authoritative. Following SFAS No. 168, the FASB will not issue new standards in the form of Statements, FASB Staff Positions or Emerging Issues Task Force Abstracts. Instead, it will issue Accounting Standards Updates to the Codification.

In August 2009, the FASB issued an Accounting Standards Update related to Codification Topic 820, *Fair Value Measurements and Disclosures*. This update provides clarification that in circumstances in which a quoted price in an active market for the identical liability is not available, a reporting entity is required to measure fair value using one or more of the following techniques:

A valuation technique that uses the quoted price of the identical liability when traded as an asset or the quoted prices for similar liabilities or similar liabilities when traded as assets.

Another valuation technique that is consistent with the principles of Topic 820.

This update also clarifies that when estimating the fair value of a liability, a reporting entity is not required to include a separate input or adjustment to other inputs relating to the existence of a restriction that prevents the transfer of the liability. Additionally, this update clarifies that both a quoted price in an active market for the identical liability at the measurement date and the quoted price for the identical liability when traded as an asset in an active market when no adjustments to the quoted price of the asset are required are Level 1 fair value measurements. This update is effective for the first reporting period beginning after issuance (the Company's interim period ended September 30, 2009). The adoption of this update did not have a material impact on the Company's financial statements.

In September 2009, the FASB issued an Accounting Standards Update to Codification Topic 740, *Income Taxes*. This update addresses the need for additional implementation guidance on accounting for uncertainty in income taxes, specifically, whether income tax paid to an entity is attributable to the entity or its owners; what constitutes a tax position for a pass-through entity or a tax-exempt entity; and how to apply the uncertainty in income taxes when a group of related entities comprise both taxable and nontaxable entities. This update also eliminates certain disclosures for nonpublic entities. Since the Company currently applies the standards for accounting for uncertainty in income taxes, this update is effective for financial statements issued for interim and annual periods ending after September 15, 2009. The adoption of this update did not have a material impact on the Company's financial statements.

In October 2009, the FASB issued an Accounting Standards Update related to Codification Subtopic 605-25, *Revenue Recognition Multiple-Element Arrangements*. The purpose of this update is to amend the criteria used for separating consideration in the multiple-deliverable arrangements. The amendment establishes a selling price hierarchy for determining the selling price of a deliverable; replaces the term fair value in the revenue allocation guidance with selling price to clarify that the allocation of revenue is based on entity-specific assumptions rather than assumptions of a marketplace participant; eliminates using the residual method of allocation and requires that the arrangement consideration be allocated at the inception of the arrangement to all deliverables using the relative selling price method; and requires that the best estimate of a selling price is determined in a manner that is consistent with that used to determine the price to sell the deliverable on a standalone basis. The amendments in this update will be effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. Early adoption is

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permitted. If adopted early, the Company would be required to apply the amendments retrospectively from the beginning of the fiscal year of adoption. The Company does not intend to adopt the amendments early. The Company does not anticipate that the adoption of this amendment will have a material impact on the Company's financial statements.

13. Subsequent Events

In connection with preparation of the financial statements, the Company evaluated subsequent events after the balance sheet date of September 30, 2009 through November 11, 2009, the date on which the financial statements were initially issued, and through December 17, 2009, the date of reissuance of the unaudited financial statements.

Employment Agreement Amendment

On October 6, 2009, the Compensation Committee (the "Compensation Committee") of the Board approved the amendment of the Offer Letter dated February 19, 2009 (the "Offer Letter") and the Severance Agreement dated March 20, 2009 (the "Severance Agreement") between the Company and Tran Nguyen, the Company's Vice President and Chief Financial Officer. The amendment modifies the Offer Letter such that Mr. Nguyen's entitlement to reimbursement for the costs of corporate housing and weekly trips between San Diego and San Francisco for Mr. Nguyen or his wife, which entitlement had expired on August 17, 2009, instead be extended until further notice by the Compensation Committee, and that Mr. Nguyen also receive a tax gross-up payment to compensate him for the tax impact for the extension of such reimbursements. The amendment also modifies the Severance Agreement such that Mr. Nguyen's severance pay, which had equaled one year of his base salary plus the average of his annual bonus for the past three years, instead be equal to one year of his base salary plus his target bonus for the year in which his termination of employment with the Company is effective. Payment of the severance pay will remain spread over the 12 months following a qualifying termination.

Changes in Executive Officer Status

Due to the discontinuation of our research and development activities, the Company discontinued Barry Gumbiner, M.D.'s employment as its Vice President of Clinical Development and Chief Medical Officer, effective October 14, 2009. Following his departure, Dr. Gumbiner will continue to consult with the Company on matters related to the licensing or sale of the Company's pipeline of product candidates and advanced discovery programs or other strategic alternatives. The Company discontinued Edgardo Baracchini, Ph.D., M.B.A.'s employment as its Senior Vice President of Business Development, effective October 23, 2009.

On October 26, 2009, the Board appointed David F. Hale, the Company's Executive Chairman, to serve as Acting Principal Executive Officer effective as of October 30, 2009 and contingent upon the previously announced departure of Mark D. Erion, Ph.D., the Company's current President, Chief Executive Officer and Chief Scientific Officer. On October 26, 2009, the Board appointed Tran B. Nguyen, M.B.A., the Company's Vice President of Finance, Chief Financial Officer, Secretary and Treasurer, to serve as Principal Accounting Officer effective as of October 26, 2009.

Proposed Merger with Ligand Pharmaceuticals Incorporated

On October 26, 2009, the Company entered into the Merger Agreement with Ligand, Merger Sub and David F. Hale as Stockholders Representative. See Note 2 above. On November 25, 2009, the Company entered into an Amendment to Agreement and Plan of Merger (the "Amendment") with Ligand, Merger Sub and

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Metabasis Therapeutics, Inc.

Notes to Financial Statements (Continued)

(Unaudited)

David F. Hale as Stockholders Representative. The Amendment clarifies certain items in the Merger Agreement and in each of the form of Roche Contingent Value Rights Agreement attached to the Merger Agreement as Exhibit A, the form of TR Beta Contingent Value Rights Agreement attached to the Merger Agreement as Exhibit B, the form of Glucagon Contingent Value Rights Agreement attached to the Merger Agreement as Exhibit C and the form of General Contingent Value Rights Agreement attached to the Merger Agreement as Exhibit D, respectively.

Lease Termination Agreement Amendment

On December 16, 2009, the Company entered into a First Amendment (the First Amendment) to the Agreement for Termination of Lease and Voluntary Surrender of Premises with ARE-SD REGION NO. 24, LLC (Owner). The First Amendment was made with regard to the Agreement for Termination of Lease and Voluntary Surrender of Premises (the Original Termination Agreement), dated July 21, 2009, by and between the Company and Owner. The Original Termination Agreement was entered into to terminate the Lease Agreement, dated December 21, 2004, by and between the Company and Owner, as amended pursuant to a First Amendment to Lease Agreement dated May 16, 2006.

In the Original Termination Agreement, the Company agreed, among other things, to grant Owner the immediate right, title and interest to receipt of payments of amounts equal to 35% of gross revenue earned or proceeds received by the Company pursuant to licenses, collaboration arrangements or sales of the Company s existing pipeline of therapeutic programs (Revenue Payments) entered into or effected during the period commencing July 1, 2009 and ending September 30, 2010 (the Period), provided that, the Revenue Payments in the aggregate shall not exceed \$1,500,000, and provided further that both the Company and Owner agree that the Company shall have no obligation to pay Owner any Revenue Payments until the Company has actually received the applicable revenue earned. In the First Amendment, the Company and Owner agreed to extend the Period such that the Period will now commence on July 1, 2009 and end on September 30, 2013.

AGREEMENT AND PLAN OF MERGER

by and among:

LIGAND PHARMACEUTICALS INCORPORATED,

a Delaware corporation;

MOONSTONE ACQUISITION, INC.,

a Delaware corporation;

METABASIS THERAPEUTICS, INC.,

a Delaware corporation; and

DAVID F. HALE,

as Stockholders Representative

Dated as of October 26, 2009*

* Including amendments made by Amendment to Agreement and Plan of Merger as of November 25, 2009. The amendments are to the definitions of Actual Net Cash Amount and Net Cash Amount in Article I and to Section 5.16(a).

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AGREEMENT AND PLAN OF MERGER

THIS AGREEMENT AND PLAN OF MERGER (*Agreement*) is made and entered into as of October 26, 2009, by and among LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation (*Parent*); MOONSTONE ACQUISITION, INC., a Delaware corporation and a wholly-owned Subsidiary of Parent (*Merger Sub*); METABASIS THERAPEUTICS, INC., a Delaware corporation (the *Company*); and DAVID F. HALE as Stockholders Representative (the *Stockholders Representative*). Capitalized terms used but not otherwise defined in this Agreement shall have the meanings given to them in *Article I*.

RECITALS

WHEREAS, the respective boards of directors of each of Parent, Merger Sub and the Company have approved the acquisition of the Company by Parent upon the terms and subject to the conditions set forth in this Agreement;

WHEREAS, upon the terms and subject to the conditions set forth in this Agreement, Merger Sub shall merge with and into the Company (the *Merger*) and each Company Share that is issued and outstanding immediately before the Effective Time (other than Dissenting Shares) will be canceled and converted into the right to receive the Merger Consideration, all upon the terms and subject to the conditions set forth herein;

WHEREAS, the board of directors of the Company (the *Company Board*) has, upon the terms and subject to the conditions set forth herein, unanimously and duly adopted resolutions (i) determining that the transactions contemplated by this Agreement, including the Merger (collectively, the *Transactions*), are advisable and in the best interests of the Company and its stockholders, (ii) approving this Agreement and the Transactions in accordance with the Delaware General Corporation Law (the *DGCL*), (iii) directing that this Agreement be submitted to the stockholders of the Company for adoption, and (iv) recommending that the stockholders of the Company adopt this Agreement and approve the Transactions;

WHEREAS, the boards of directors of Parent and of Merger Sub have, upon the terms and subject to the conditions set forth herein, unanimously and duly approved and declared advisable this Agreement and the Transactions, and Parent, in its capacity as the sole stockholder of Merger Sub, has adopted this Agreement, in each case, in accordance with the DGCL;

WHEREAS, as an inducement to Parent's willingness to enter into this Agreement, simultaneously with the execution of this Agreement, Parent and certain stockholders of the Company owning in the aggregate approximately 28% of the Outstanding Company Shares have executed and delivered to the Company voting agreements (the *Voting Agreements*);

WHEREAS, for U.S. federal income tax purposes, it is intended that the Merger not qualify as a tax-free reorganization within the meaning of Section 368(a) of the Code and the Treasury Regulations promulgated thereunder; and

WHEREAS, Parent, Merger Sub and the Company desire to make certain representations, warranties, covenants and agreements in connection with the Merger and the other transactions contemplated by this Agreement and also to prescribe certain conditions to the Merger as specified herein;

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NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and agreements herein contained, and intending to be legally bound hereby, Parent, Merger Sub and the Company hereby agree as follows:

ARTICLE I

CERTAIN DEFINITIONS

For purposes of the Agreement:

Acquisition Proposal shall mean any unsolicited, bona fide offer or proposal (other than an offer or proposal made or submitted by Parent or Merger Sub or any of their Affiliates) relating to a possible Acquisition Transaction.

Acquisition Transaction shall mean any transaction or series of related transactions (other than the transactions contemplated by this Agreement) involving or resulting in: (i) any acquisition or purchase by any Person or group (as defined in or under Section 13(d) of the Exchange Act), directly or indirectly, of more than 20% of the total outstanding voting securities of the Company, or any tender offer or exchange offer that, if consummated, would result in the Person or group (as defined in or under Section 13(d) of the Exchange Act) making such offer beneficially owning more than 20% of the total outstanding voting securities of the Company; (ii) any merger, consolidation, share exchange, business combination, acquisition of securities, recapitalization, tender offer, exchange offer or other similar transaction involving the Company pursuant to which the stockholders of the Company immediately before the consummation of such transaction would hold less than 80% of the equity interests in the surviving or resulting entity of such transaction immediately after consummation thereof; or (iii) any sale (other than the sale of laboratory equipment), lease, exchange, transfer, license, acquisition or disposition of assets (other than the 7133 Program) constituting more than 10% of the assets of the Company (measured by either book or fair market value thereof) or the net revenues or net income of the Company and the Company Subsidiaries taken as a whole.

Actual Net Cash Amount shall mean the Net Cash Amount calculated as of the Determination Date (but assuming that the Effective Time had occurred on the day before) and set forth in a certificate delivered by an executive officer of the Company to Parent on the first Business Day following the Determination Date.

Adjusted Reference Amount shall mean the Reference Amount (i) plus the amount, if any, by which the Actual Net Cash Amount exceeds the Target Net Cash Amount or (ii) minus the amount, if any, by which the Target Net Cash Amount exceeds the Actual Net Cash Amount.

Affiliate shall mean a Person who is related to another Person such that such Person directly or indirectly controls, is directly or indirectly controlled by or is directly or indirectly under common control with such other Person.

Business Day shall mean any day other than a Saturday, Sunday or a day on which the banks in New York, New York or San Diego, California are authorized by applicable Legal Requirement or executive order to be closed.

Code shall mean the Internal Revenue Code of 1986, as amended from time to time.

Company Equity Plans shall mean the Metabasis Therapeutics, Inc. Amended and Restated 2001 Equity Incentive Plan, the Company ESPP, and the Metabasis Therapeutics, Inc. 2004 Non-Employee Directors Stock Option Plan, in each case, as amended from time to time.

Company ESPP shall mean the Company's 2004 Employee Stock Purchase Plan, as amended from time to time.

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Company Intellectual Property shall mean the Intellectual Property, IP Licenses and Software held for use or used in the business of the Company or any Company Subsidiary as presently conducted.

Company Material Adverse Effect shall mean, in reference to any fact, circumstance, event, change or occurrence, any such fact, circumstance, event, change or occurrence that, individually or in the aggregate with all other facts, circumstances, events, changes or occurrences, has or would reasonably be expected to have a material adverse effect on the results of operations or financial condition of the Company and the Company Subsidiaries, taken as a whole, other than changes, events, occurrences or effects arising out of, resulting from or attributable to (i) changes in conditions in the United States or global economy or capital or financial markets generally, including changes in interest or exchange rates, (ii) conditions (or changes therein) in any industry or industries in which the Company and the Company Subsidiaries operate, (iii) any change in Legal Requirements or GAAP or interpretation of any of the foregoing, (iv) acts of war, sabotage or terrorism, or any escalation or worsening of any such acts of war, sabotage or terrorism threatened or underway as of the date of this Agreement, (v) storms, earthquakes or other natural disasters, (vi) any action taken by the Company or any Company Subsidiary as contemplated or permitted by this Agreement or with Parent's consent, (vii) the initiation of any litigation by any stockholder of the Company relating to this Agreement or the Merger, (viii) any decline in the market price, or change in trading volume, of the capital stock of the Company or any failure of the Company to meet revenue or earnings projections, either published by the Company or any third party (*provided* that this exception shall not prevent or otherwise affect a determination that any changes, state of facts, circumstances, events or effects underlying a change described in this clause (viii) has resulted in, or contributed to, a Company Material Adverse Effect), (ix) any adverse changes, developments, circumstances, events or occurrences relating to the Company's ongoing research programs to the extent resulting from an action by Parent or any of its Affiliates, (x) the determination by, or the delay of a determination by, the FDA, or any panel or advisory body empowered or appointed thereby, with respect to the approval, non-approval or disapproval of any products similar to or competitive with the Company's product candidates, (xi) the results of any clinical trial of one or more products or product candidates of any Person other than the Company, (xii) the entry or threatened entry into the market of a generic version of one or more product candidates of the Company or (xiii) the negotiation, execution, announcement or performance of this Agreement or the consummation of the Transactions, including the impact thereof on relationships, contractual or otherwise, with customers, suppliers, distributors, partners, collaborators or employees; *except*, in the case of the foregoing clauses (i), (ii), (iii), (iv) and (v), to the extent that any such condition has a materially disproportionate adverse effect on the Company and the Company Subsidiaries, taken as a whole, relative to other companies of comparable size to the Company and the Company Subsidiaries operating in industry or industries in which the Company and the Company Subsidiaries operate.

Company Options shall mean options to purchase Company Shares from the Company, whether granted by the Company pursuant to the Company Equity Plans or otherwise.

Company Programs shall mean the drug development programs which were formerly drug development programs of the Company before the Effective Time.

Company Subsidiary shall mean a Subsidiary of the Company.

Company Warrants shall mean all warrants issued by the Company to purchase Company Shares.

Confidentiality and Exclusivity Agreement shall mean the Confidentiality and Exclusivity Agreement dated October 9, 2009, and as thereafter extended/amended, between Parent and the Company.

Contract shall mean any loan or credit agreement, bond, debenture, note, mortgage, indenture, guarantee, lease or other contract, commitment, agreement, instrument, arrangement, understanding, obligation, undertaking or license (each, including all amendments thereto).

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Copyrights shall mean all registered and unregistered copyrights (including those in Software) and registrations and applications to register the same.

CVR Agreements shall mean, collectively, the Roche CVR Agreement, the TR Beta CVR Agreement, the Glucagon CVR Agreement and the General CVR Agreement.

CVRs shall mean, collectively, the Roche CVRs, the TR Beta CVRs, the Glucagon CVRs and the General CVRs.

Determination Date shall mean the 3rd Trading Day preceding the date of the Special Meeting.

Encumbrance shall mean, with respect to any property or asset, any mortgage, easement, lien, pledge (including any negative pledge), security interest or other encumbrance of any nature whatsoever in respect of such property or asset.

Entity shall mean any corporation (including any non-profit corporation), general partnership, limited partnership, limited liability partnership, joint venture, estate, trust, company (including any company limited by shares, limited liability company or joint stock company), firm, society or other enterprise, association, organization or entity (including any Governmental Entity).

ERISA shall mean the Employee Retirement Income Security Act of 1974, as amended from time to time.

Exchange shall mean The NASDAQ Global Market of The NASDAQ Stock Market LLC.

Exchange Act shall mean the Securities Exchange Act of 1934, as amended.

Executive shall mean any executive officer of the Company.

FDA shall mean the United States Food and Drug Administration.

FTE shall mean the full time equivalent effort of one scientist with either a B.Sc., M.S. or Ph.D. or equivalent degree consisting of 1,875 hours per year of scientific work.

Fund Distribution Date shall have the meaning set forth in the General CVR Agreement.

Funding shall mean the sum of (i) 100% of reasonable out-of-pocket expenses paid to third parties by Parent or the Surviving Corporation for goods or services actually provided after the Effective Time, or which is an account payable of Parent or the Surviving Corporation for goods or services actually provided after the Effective Time, in each case which relates directly to the research and development of drug development programs which were formerly drug development programs of the Company before the Effective Time (including, without limitation, equipment, supplies, outsource firms, patent attorneys, filing fees, etc.) and (ii) \$350,000 per FTE (plus a proportional amount per fractional FTE) working on or directly related to and in support of such programs. For purposes of clarity, *Funding* shall not include any fees or expenses incurred by any party hereto in connection with the execution of this Agreement or the consummation of the Transactions.

GAAP shall mean United States generally accepted accounting principles.

General CVR shall mean a right having the terms and conditions set forth in the General CVR Agreement to be issued in accordance with *Section 2.06* in respect of each Outstanding Company Share.

General CVR Agreement shall mean the agreement governing the terms and conditions of the General CVRs substantially in the form attached hereto as *Exhibit D*.

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General Program shall have the meaning set forth in the General CVR Agreement.

Glucagon CVR shall mean a right having the terms and conditions set forth in the Glucagon CVR Agreement to be issued in accordance with Section 2.06 in respect of each Outstanding Company Share.

Glucagon CVR Agreement shall mean the agreement governing the terms and conditions of the Glucagon CVRs substantially in the form attached hereto as *Exhibit C*.

Glucagon Program shall have the meaning set forth in the Glucagon CVR Agreement.

Governmental Authorization shall mean any permit, license, registration, qualification, certificate, clearance, variance, waiver, exemption, certificate of occupancy, exception, franchise, entitlement, consent, confirmation, order, approval or authorization granted by any Governmental Entity.

Governmental Entity shall mean any federal, state or local government or body or any agency, authority, subdivision or instrumentality of any of the foregoing, including any court, tribunal, department, bureau, administrative agency, commission or board, or any quasi-governmental or private body duly exercising any regulatory, taxing, inspecting or other governmental authority.

Indebtedness shall mean (i) indebtedness for borrowed money, including indebtedness evidenced by a note, bond, debenture or similar instrument, or (ii) obligations in respect of outstanding letters of credit, acceptances and similar obligations created for the account of such Person.

Indemnified Leader shall mean each individual who is or was an officer or director of the Company, or its Subsidiaries, at any time on or before the Effective Time.

Indemnified Party shall mean each individual who is or was an officer, director, employee or agent of the Company, or its Subsidiaries, at any time on or before the Effective Time who is or was entitled to indemnification pursuant to the DGCL, the Company Charter Documents or any Contract with such Person.

Intellectual Property shall mean all U.S. and foreign (i) Trademarks, (ii) Patents, (iii) Copyrights, (iv) Trade Secrets and (v) databases and compilations, including any and all electronic data and electronic collections of data.

IP Licenses shall mean any license or sublicense rights in or to any Intellectual Property.

Knowledge of Parent shall mean the actual knowledge of John Higgins, John Sharp or Charles Berkman.

Knowledge of the Company shall mean the actual knowledge of Mark Erion, Tran Nguyen or Barry Gumbiner.

Legal Proceeding shall mean any claim (presented formally to a judicial or quasi-judicial Governmental Entity), lawsuit, court action, suit, arbitration or other judicial or administrative proceeding.

Legal Prohibition shall mean any final, permanent Legal Requirement that is in effect and that prevents or prohibits consummation of the Transactions.

Legal Requirement shall mean any federal, state or local law, statute, code, ordinance, regulation, code, order, judgment, writ, injunction, decision, ruling or decree promulgated by any Governmental Entity.

Net Cash Amount shall mean, as of the applicable date, an amount equal to (i) the sum of all cash (including any payments received by the Company from the exercise of Company Options or Company

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Warrants), cash equivalents, marketable securities and accounts receivable (net of accounts receivable reserves established as required by GAAP) held by the Company and the Company Subsidiaries (but *excluding* any Roche Program Consideration and 7133 Program Consideration); *plus* (ii) all fees and expenses actually incurred by the Company in connection with any 7133 Program Transaction which is consummated before the Effective Time; *minus* (iii) the sum of (A) any amount payable by the Company or the Surviving Corporation after the Determination Date for the out-of-pocket transaction fees and expenses of the Company to its legal and financial advisors and accountants in connection with this Agreement and the Transactions, (B) any amount payable by the Company or the Surviving Corporation after the Determination Date for expenses incurred by the Company in connection with the preparation, filing, printing and mailing of the Proxy Statement and the solicitation of proxies for use at the Special Meeting, (C) except as otherwise covered in subclause (D) below, all severance payments, stay bonuses and performance bonuses payable to all employees, consultants and directors of the Company and the Company Subsidiaries assuming that the service relationship of all such employees, consultants and directors with the Company and the Company Subsidiaries is terminated as of the Closing Date, even if such service relationship in fact does continue after the Closing Date, (D) all severance payments, stay bonuses and performance bonuses remaining payable at the Closing Date to all employees, consultants and directors of the Company and the Company Subsidiaries whose service relationship with the Company and the Company Subsidiaries is terminated on or before the Closing Date, (E) the salary, employer-tax and benefits cost of the continuation of employment of any Company employees, as a result of the advance-notice requirements of their respective employment agreements, beyond the Closing Date until their actual termination date, if before the Determination Date Parent requests the Company to terminate such employees, (F) if the Company has not before the Effective Time purchased a tail prepaid policy on the D&O Insurance Policy as contemplated by the second sentence of *Section 5.10(c)* below, \$360,000, and (G) to the extent not included in any other subclause of this clause (iii), all accounts payable, notes payable, lease payables and other capital-item liabilities and other liabilities (other than (x) non-cash items, (y) any contingent payments payable by the Company in respect of post-Merger transactions to ARE-SD Region No. 24, LLC or its Affiliates or (z) any contingent severance payments payable in respect of post-Merger transactions to the employees that were terminated in the Company's May 2009 reduction in force) of the Company and the Company Subsidiaries; *provided* that all such amounts shall be determined in a manner consistent with the manner in which such items were determined by the Company in the most recent balance sheet included in the Company Financial Statements.

Outstanding Company Shares shall mean the Company Shares issued and outstanding immediately before the Effective Time (not including, for purposes of calculating the allocation of the Merger Consideration, any Company Shares to be cancelled pursuant to *Section 2.06(i)* and *(ii)*).

Parent Material Adverse Effect shall mean, in reference to any fact, circumstance, event, change or occurrence, any such fact, circumstance, event, change or occurrence that, individually or in the aggregate with all other facts, circumstances, events, changes or occurrences, has or would reasonably be expected to have a material adverse effect on the results of operations or financial condition of Parent and the Parent Subsidiaries, taken as a whole, other than changes, events, occurrences or effects arising out of, resulting from or attributable to (i) changes in conditions in the United States or global economy or capital or financial markets generally, including changes in interest or exchange rates, (ii) conditions (or changes therein) in any industry or industries in which Parent and the Parent Subsidiaries operate, (iii) any change in Legal Requirements or GAAP or interpretation of any of the foregoing, (iv) acts of war, sabotage or terrorism, or any escalation or worsening of any such acts of war, sabotage or terrorism threatened or underway as of the date of this Agreement, (v) storms, earthquakes or other natural disasters, (vi) the initiation of any litigation by any stockholder of Parent relating to this Agreement or the Merger, (vii) any decline in the market price, or change in trading volume, of the capital stock of Parent or any failure of Parent to meet revenue or earnings projections, either published by Parent or any third party (*provided* that this exception shall not prevent or otherwise affect a determination that any changes, state of facts, circumstances, events or effects underlying a change described in this clause (vii) has resulted in, or contributed to, a Parent Material Adverse Effect), (viii) the negotiation, execution, announcement or performance of this Agreement or the consummation of the Transactions, including the impact thereof on relationships, contractual or otherwise, with customers, suppliers, distributors, partners, collaborators or

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employees, (ix) any action taken by Parent or any Parent Subsidiary as contemplated or permitted by this Agreement or with the Company's consent, (x) the determination by, or the delay of a determination by, the FDA, or any panel or advisory body empowered or appointed thereby, with respect to the approval, non-approval or disapproval of any products similar to or competitive with Parent's product candidates, (xi) the results of any clinical trial of one or more products or product candidates of any Person other than Parent, or (xii) the entry or threatened entry into the market of a generic version of one or more product candidates of Parent, *except*, in the case of the foregoing clauses (i), (ii), (iii), (iv) and (v), to the extent that any such condition has a materially disproportionate adverse effect on Parent and the Parent Subsidiaries, taken as a whole, relative to other companies of comparable size to Parent and the Parent Subsidiaries operating in such industry or industries.

Parent Subsidiary shall mean a Subsidiary of Parent.

Partner Value shall mean the sum of any upfront Proceeds and any milestone Proceeds, but specifically excluding any royalty Proceeds.

Patents shall mean all patents and pending patent applications, invention disclosure statements, and any and all divisions, continuations, continuations-in-part, reissues, reexaminations and extensions thereof, any counterparts claiming priority therefrom and like statutory rights.

Permitted Encumbrances shall mean: (i) Encumbrances for Taxes not yet due and payable or for Taxes that are being contested in good faith by appropriate proceedings; (ii) Encumbrances or imperfections of title resulting from or otherwise relating to any of the contracts referred to in the Company Disclosure Letter, to the extent the Company Disclosure Letter expressly identifies such Encumbrance or imperfection of title (or such is obvious on the face of the contract); (iii) Encumbrances or imperfections of title relating to liabilities expressly reflected in the financial statements (including any related notes) contained in the Company SEC Documents; (iv) Encumbrances arising from or otherwise relating to transfer restrictions under the Securities Act and the securities laws of the various states of the United States or foreign jurisdictions; and (v) mechanics, materialmen's and similar statutory liens arising or incurred in the ordinary course of business for amounts not overdue.

Person shall mean any individual or Entity.

Proceeds shall mean all cash and the cash equivalent of all non-cash proceeds, where the cash equivalent of such non-cash proceeds is determined by an independent appraiser selected by the Board of Directors of Parent in good faith. The determination made by such appraiser shall be final and binding upon all persons. Future streams of cash shall not be considered to be non-cash proceeds, but the actual cash payments thereunder shall be treated as cash proceeds if, as and when received.

Reference Amount shall mean \$3,207,500 less \$150,000 to be deposited at or before Closing in the Stockholders' Representative Fund.

Roche Agreement shall mean that certain Collaboration and License Agreement, effective as of August 7, 2008, by and among Hoffmann-La Roche Inc., Roche Palo Alto LLC, F. Hoffmann-La Roche Ltd. and the Company, as amended from time to time.

Roche CVR shall mean a right having the terms and conditions set forth in the Roche CVR Agreement to be issued in accordance with Section 2.06 in respect of each Outstanding Company Share.

Roche CVR Agreement shall mean the agreement governing the terms and conditions of the Roche CVRs substantially in the form attached hereto as Exhibit A.

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Roche Program Consideration shall mean a cash amount equal to the aggregate Proceeds actually received by the Company on or after the date hereof and before the Effective Time in connection with a Roche Milestone Payment Event, a Roche Purchase Payment Event and/or a Roche Royalty Payment Event (each as defined in the Roche CVR Agreement).

SEC shall mean the United States Securities and Exchange Commission.

Securities Act shall mean the Securities Act of 1933, as amended.

7133 Licensing Event shall have the meaning set forth in the General CVR Agreement.

7133 Licensing Option Event shall have the meaning set forth in the General CVR Agreement.

7133 Program shall mean the Company's active program for the development of a HepDirect prodrug of AraCMP for the treatment of hepatocellular carcinoma, including all related Intellectual Property and other related rights of the Company, and any and all clinical and non-clinical data compiled by the Company, in each case arising from the Company's operation of such program.

7133 Program Consideration shall mean a cash amount equal to the aggregate Proceeds actually received by the Company on or after the date hereof and before the Effective Time in connection with a 7133 Licensing Event, a 7133 Licensing Option Event, a 7133 Sale Event and/or a 7133 Sale Option Event.

7133 Program Transaction shall mean any transaction to which the Company is a party entered into before the Effective Time that results in a 7133 Licensing Event, 7133 Licensing Option Event, a 7133 Sale Event and/or a 7133 Sale Option Event.

7133 Sale Event shall have the meaning set forth in the General CVR Agreement.

7133 Sale Option Event shall have the meaning set forth in the General CVR Agreement.

Software means all computer programs, including any and all software implementations of algorithms, models and methodologies whether in source code or object code form, and all documentation, including user manuals and training materials, related to any of the foregoing.

Special Meeting shall mean a special meeting of the stockholders of the Company held for the purpose of considering and taking action upon this Agreement and the Merger.

Stockholders Representative Fund shall mean the account set up for the benefit of the Stockholders Representative for the reimbursement of fees and expenses pursuant to *Section 5.16(e)* hereof.

Subsidiary shall mean an Entity that is related to another Entity such that such other Entity directly or indirectly owns, beneficially or of record: (i) an amount of voting securities or other interests in such Entity that is sufficient to enable such other Entity to elect at least a majority of the members of such Entity's board of directors or comparable governing body; or (ii) more than 50% of the outstanding equity interests issued by such Entity.

Superior Proposal shall mean any unsolicited, bona fide written offer made by a third party unaffiliated with the Company to directly or indirectly acquire (by way of merger, tender or exchange offer or otherwise) greater than 95% of the Company's assets or greater than 95% of the outstanding Company Shares (other than Company Shares already held by such third party) that the Company Board shall have determined in good faith (after consultation with the Company's outside legal counsel and financial advisor, and after taking into account, among other things, the financial, legal and regulatory aspects of such offer (including any financing required

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and the availability thereof), as well as any revisions to the terms hereof proposed by Parent pursuant to *Section 5.04(c)*, is more favorable from a financial point of view to the stockholders of the Company than the terms of the Merger (taking into account any revisions to the terms hereof proposed by Parent pursuant to *Section 5.04(c)*) and is reasonably capable of being consummated on the terms proposed.

Target Net Cash Amount shall mean zero.

Tax or *Taxes* shall mean (i) all federal, state, local or foreign taxes, including all net income, gross receipts, capital, sales, use, ad valorem, value added, transfer, franchise, profits, inventory, capital stock, license, withholding, payroll, employment, social security, unemployment, excise, severance, stamp, occupation, property and estimated taxes or other taxes any kind whatsoever, and (ii) all interest, penalties, fines, additions to tax or additional amounts imposed by any Governmental Entity in connection with any item described in clause (i).

Tax Returns shall mean any return, report, claim for refund, estimate, information return or statement or other similar document relating to or required to be filed with any Governmental Entity with respect to Taxes, including any schedule or attachment thereto, and including any amendment thereof.

Termination Fee shall mean \$400,000; *provided, however*, for purposes of Section 7.03(a) *Termination Fee* shall mean \$250,000.

TR Beta CVR shall mean a right having the terms and conditions set forth in the TR Beta CVR Agreement to be issued in accordance with *Section 2.06* in respect of each Outstanding Company Share.

TR Beta CVR Agreement shall mean the agreement governing the terms and conditions of the TR Beta CVRs substantially in the form attached hereto as *Exhibit B*.

TR Beta Program shall mean the Company's active program for the development of a thyroid receptor beta agonist for the treatment of hyperlipidemia, including all related Intellectual Property and other related rights of the Company, and any and all clinical and non-clinical data compiled by the Company, in each case arising from the Company's operation of such program.

Trade Secrets shall mean confidential technology, know-how, plans, data, designs, protocols, plans, strains, molecules, works of authorship, inventions, processes, formulae, algorithms, models and methodologies, and trade secrets as defined in applicable state law.

Trademarks shall mean all registered and unregistered trademarks, service marks, trade names, Internet domain names, designs, logos and slogans, together with goodwill, registrations and applications relating to the foregoing.

Trading Day shall mean any day on which securities are traded on the Exchange.

ARTICLE II

THE MERGER; EFFECTIVE TIME

Section 2.01 Merger of Merger Sub into the Company.

Upon the terms and subject to the conditions set forth in this Agreement and in accordance with the DGCL, at the Effective Time, Merger Sub shall be merged with and into the Company, and the separate existence of Merger Sub shall cease. The Company will continue as the surviving corporation in the Merger (the *Surviving Corporation*).

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Section 2.02 Effect of the Merger.

The Merger shall have the effects set forth in this Agreement and in the applicable provisions of the DGCL, including, without limitation Section 259 of the DGCL. Without limiting the generality of the foregoing and subject thereto, at the Effective Time, all the property rights, privileges, immunities, powers and franchises of the Company and Merger Sub shall vest in the Surviving Corporation and all the debts, liabilities and duties of the Company and Merger Sub shall become the debts, liabilities and duties of the Surviving Corporation.

Section 2.03 Effective Time

Subject to the provisions of this Agreement, Parent, Merger Sub and the Company will cause a properly executed certificate of merger conforming to the requirements of the DGCL (the *Certificate of Merger*) to be filed with the Secretary of State of the State of Delaware on the Closing Date. The Merger shall become effective at the time the Certificate of Merger is filed with the Secretary of State of the State of Delaware, or at such later time as is agreed to in writing by the parties hereto and specified in the Certificate of Merger (the time at which the Merger becomes effective being referred to in this Agreement as the *Effective Time*).

Section 2.04 Closing

The closing of the Transactions (the *Closing*) will take place at 10:00 a.m. (San Diego time) on the date (the *Closing Date*) that is the second Business Day after the satisfaction or waiver (if such waiver is permitted and effective under applicable Legal Requirements) of the latest to be satisfied or waived of the conditions set forth in *Article VI* (excluding conditions that, by their terms, are to be satisfied on the Closing Date), unless another time or date is agreed to in writing by the parties. The Closing shall be held at the offices of Stradling Yocca Carlson & Rauth located at 4365 Executive Drive, Suite 1500, San Diego, CA 92121, unless another place is agreed to in writing by the parties.

Section 2.05 Certificate of Incorporation and Bylaws; Officers and Directors.

Unless otherwise jointly determined by Parent and the Company before the Effective Time:

(a) Subject to *Section 5.10(a)*, (i) the certificate of incorporation of the Company as in effect immediately before the Effective Time shall be the certificate of incorporation of the Surviving Corporation, until thereafter changed or amended as provided therein or by applicable Legal Requirements, and (ii) the bylaws of the Company as in effect immediately before the Effective Time shall be the bylaws of the Surviving Corporation, until thereafter changed or amended as provided therein or by applicable Legal Requirements.

(b) The directors and officers of Merger Sub immediately before the Effective Time shall be the initial directors and officers, respectively, of the Surviving Corporation, each to hold office in accordance with the Certificate of Incorporation and Bylaws of the Surviving Corporation.

Section 2.06 Conversion of Company Shares.

(a) At the Effective Time, by virtue of the Merger and without any further action on the part of Parent, Merger Sub, the Company or any stockholder of the Company or of Merger Sub:

(i) any Company Shares then held by the Company or any wholly-owned Company Subsidiary (or held in the Company's treasury) shall cease to exist, and no consideration shall be paid in exchange therefor;

(ii) any Company Shares then held by Parent, Merger Sub or any other wholly-owned Parent Subsidiary shall cease to exist, and no consideration shall be paid in exchange therefor;

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(iii) except as provided in clauses (i) and (ii) above, each issued and outstanding Company Share (other than Dissenting Shares) shall be converted into the right to receive (A) an amount in cash equal to the Adjusted Reference Amount divided by the total number of Outstanding Company Shares, (B) one Roche CVR (C) one TR Beta CVR, (D) one Glucagon CVR, and (E) one General CVR (collectively, the *Merger Consideration*); and

(iv) each share of Merger Sub then outstanding shall be converted into one share of the common stock of the Surviving Corporation, such that immediately after the Effective Time Parent shall, as the former holder of all the shares of Merger Sub, own a number of shares of the common stock of the Surviving Corporation equal to the number (immediately before the Effective Time) of Outstanding Common Shares.

Section 2.07 Closing of the Company's Transfer Books.

At the Effective Time: (a) all Company Shares outstanding immediately before the Effective Time shall cease to exist as provided in *Section 2.06* and all holders of certificates representing Company Shares that were outstanding immediately before the Effective Time shall cease to have any rights as stockholders of the Company except the right to receive the Merger Consideration therefor; and (b) the stock transfer books of the Company shall be closed with respect to all Company Shares. No further transfer of any such Company Shares shall be made on such stock transfer books after the Effective Time. If, after the Effective Time, a valid certificate previously representing any Company Shares (a *Company Stock Certificate*) is presented to the Exchange Agent, the Surviving Corporation or Parent, such Company Stock Certificate shall be canceled and, if it represents Outstanding Company Shares, shall be exchanged as provided in *Section 2.08*.

Section 2.08 Exchange of Certificates.

(a) Before the Effective Time: (i) Parent shall select a bank or trust company (reasonably acceptable to the Company) to act as exchange agent with respect to the payment of the Merger Consideration (the *Exchange Agent*); and (ii) Parent shall deposit with the Exchange Agent the cash component of the Merger Consideration, sufficient to enable the Exchange Agent to make the cash component payments pursuant to *Section 2.06* to the holders of Outstanding Company Shares. Such cash amount deposited with the Exchange Agent shall, pending its disbursement to such holders, be invested by the Exchange Agent in (i) direct obligations of the United States of America, (ii) obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest, or (iii) money market funds investing solely in a combination of the foregoing. Any interest and other income resulting from such investments shall be the property of, and shall be paid to, Parent. Parent shall promptly replace any funds deposited with the Exchange Agent lost through any investment made pursuant to this paragraph.

(b) Promptly after the Effective Time, Parent shall cause the Exchange Agent to mail to each Person who was, immediately before the Effective Time, a holder of record of Company Shares a form of letter of transmittal and instructions for use in effecting the surrender of Company Stock Certificates representing such Company Shares in exchange for payment of the Merger Consideration therefor. Parent shall ensure that, upon surrender to the Exchange Agent of each such Company Stock Certificate, together with a properly completed and executed (and, if necessary, signature-guaranteed) letter of transmittal, the holder of such Company Stock Certificate (or, under the circumstances described in *Section 2.08(f)*, the transferee of the Company Shares represented by such Company Stock Certificate) shall promptly receive in exchange therefor the Merger Consideration (including the CVRs and any payment distributed between the Effective Time and the time of such surrender on CVRs of that type), without interest.

(c) On or after the one year anniversary of the Effective Time, Parent or the Surviving Corporation shall be entitled to cause the Exchange Agent to deliver to Parent or the Surviving Corporation any funds made available by Parent to the Exchange Agent which have not been disbursed to holders of Company Shares, and thereafter such holders shall be entitled to look only to Parent and the Surviving Corporation with respect to the Merger Consideration payable and issuable upon surrender of their Company Shares.

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(d) Neither the Exchange Agent, Parent nor the Surviving Corporation shall be liable to any holder of Company Shares for any amount properly paid to a public official pursuant to any applicable abandoned property or escheat Legal Requirements. If any Company Stock Certificates shall not have been surrendered on the day immediately before the day that such property is required to be delivered to any public official pursuant to any applicable abandoned property, escheat or similar Legal Requirement, any such Merger Consideration in respect thereof shall, to the extent permitted by applicable Legal Requirements, become the property of Parent, free and clear of all claims or interest of any Person previously entitled thereto.

(e) If any Company Stock Certificate shall have been lost, stolen or destroyed, then, upon the making of an affidavit of that fact by the Person claiming such Company Stock Certificate to be lost, stolen or destroyed in a form reasonably satisfactory to Parent (together with an indemnity in form reasonably satisfactory to Parent against any claim that may be made against the Exchange Agent or Parent or otherwise with respect to such certificate and, if required by Parent, the posting by such Person of a bond in such reasonable amount as Parent may direct to support such indemnity), Parent shall cause the Exchange Agent to pay in exchange for such lost, stolen or destroyed Company Stock Certificate the Merger Consideration.

(f) In the event of a transfer of ownership of Company Shares which is not registered in the transfer records of the Company, the Merger Consideration may be paid and issued with respect to such Company Shares to a transferee of such Company Shares if the Company Stock Certificate representing such Company Shares is presented to the Exchange Agent, accompanied by all documents reasonably required by the Exchange Agent to evidence and effect such transfer and to evidence that any applicable stock transfer taxes relating to such transfer have been paid.

(g) The Surviving Corporation or Parent shall bear and pay all charges and expenses, including those of the Exchange Agent, incurred in connection with the exchange of the Company Shares.

(h) Parent, the Surviving Corporation and the Exchange Agent shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to the Merger or this Agreement to any holder of Company Shares, such amounts as Parent, the Surviving Corporation or the Exchange Agent are required to deduct and withhold under the Code with respect to the making of such payment. To the extent that amounts are so withheld and paid over to the appropriate Tax authority or other Governmental Entity by Parent, the Surviving Corporation or the Exchange Agent, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the holder of Company Shares, in respect of whom such deduction and withholding was made by Parent, the Surviving Corporation or the Exchange Agent.

Section 2.09 Company Stock Options; Company Warrants.

(a) By operation of the Company Equity Plans, all outstanding Company Options, whether or not then vested, will become fully vested and exercisable on the Closing Date. The Company Board, by operation of existing agreements or by resolution, will take all requisite actions such that immediately before the Effective Time (i) each holder of outstanding Company Options shall be entitled to exercise in full all Company Options held by such holder by paying the exercise price therefor in exchange for the Company Shares in accordance with the applicable Company Equity Plan, and (ii) all outstanding Company Options not exercised pursuant to clause (i) of this *Section 2.09(a)* shall be terminated and canceled without any payment or liability on the part of the Company.

(b) Unless any outstanding Company Warrant shall otherwise terminate automatically in connection with the Transactions, between the date of this Agreement and the Effective Time, the Company shall use reasonable best efforts to enter into agreements with the holders of the outstanding Company Warrants to terminate and cancel all such Company Warrants, effective immediately before the Effective Time, without any payment or liability on the part of the Company; *provided* that the ability of the Company to terminate and cancel all such Company Warrants shall not limit in any way Parent's obligation to consummate the Merger and the Transactions.

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(c) If any Company Warrant remains outstanding after the Effective Time and the holder thereof exercises such Company Warrant before its expiration date, then Parent shall issue and pay in respect of each exercised Company Warrant in exchange for the payment of the applicable exercise price, on a per-exercised-share basis, equivalent consideration to the Merger Consideration (or the proceeds thereof) as is paid (if and when) in respect of each issued and outstanding Company Share, immediately before the Effective Time, on or after the date that such Company Warrant is exercised.

(d) As soon as practicable following the date of this Agreement, the Company Board (or, if appropriate, any committee thereof administering the Company ESPP) shall adopt such resolutions or take such other actions as may be required with respect to the Company ESPP as are necessary to provide that no new offering period shall begin under the Company ESPP after the date of this Agreement and that the Company ESPP shall terminate, effective immediately before the Effective Time.

Section 2.10 Dissenting Shares

Notwithstanding anything in this Agreement to the contrary, any Company Share issued and outstanding immediately before the Effective Time held by a holder who is entitled to demand and properly demands appraisal of such Company Shares (the *Dissenting Shares*), pursuant to, and who complies in all respects with, Section 262 of the DGCL (the *Appraisal Rights*), shall not be converted into the right to receive the Merger Consideration, but instead shall be converted into the right to receive such consideration as may be due such holder pursuant to Section 262 of the DGCL unless such holder fails to perfect, withdraws or otherwise loses such holder's right to such payment or appraisal. From and after the Effective Time, a holder of Dissenting Shares shall not have and shall not be entitled to exercise any of the voting rights or other rights of a stockholder of the Company or the Surviving Corporation. If, after the Effective Time, such holder fails to perfect, withdraws or otherwise loses any such Appraisal Rights, each such share of such holder shall no longer be considered a Dissenting Share and shall be deemed to have converted as of the Effective Time into the right to receive the Merger Consideration in accordance with *Section 2.06(iii)*. The Company shall give prompt notice to Parent of any demands received by the Company for appraisal of Company Shares, withdrawals of such demands and any other instruments served pursuant to the DGCL received by the Company, and Parent shall have the right to control all negotiations and proceedings with respect to such demands. Before the Effective Time, the Company shall not, except with the prior written consent of Parent, voluntarily make any payment with respect to, or settle or offer to settle, any such demands or agree to do or commit to do any of the foregoing.

ARTICLE III

REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company hereby represents and warrants to Parent and Merger Sub that except as set forth in the letter delivered by the Company to Parent immediately before the execution of this Agreement (the *Company Disclosure Letter*) or the Company SEC Documents either filed with or furnished to the SEC before the date of this Agreement (the *Filed Company SEC Documents*) (it being understood that any matter set forth in the Company Disclosure Letter or in such Filed Company SEC Documents shall be deemed disclosed with respect to any Section of this *Article III* to which the matter relates, to the extent the relevance of such matter to such Section is reasonably apparent):

Section 3.01 Organization, Standing and Corporate Power.

(a) The Company is a corporation duly organized, validly existing and in good standing under the Legal Requirements of the State of Delaware and has all requisite corporate power and authority necessary to own or lease all of its properties and assets and to carry on its business as it is now being conducted. The Company is duly licensed or qualified to do business and is in good standing in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned or leased or held under

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license by it makes such licensing or qualification necessary, except where the failure to be so licensed, qualified or in good standing would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, impair in any material respect the ability of the Company to perform its obligations hereunder or prevent or materially delay consummation of the Transactions.

(b) Each Company Subsidiary is a corporation or other organization duly organized, validly existing and in good standing under the Legal Requirements of the jurisdiction of its organization. Each Company Subsidiary is duly licensed or qualified to do business and is in good standing in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned or leased or held under license by it makes such licensing or qualification necessary, except where the failure to be so licensed, qualified or in good standing would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. *Section 3.01(b)* of the Company Disclosure Letter sets forth a true and complete list of each Company Subsidiary and the jurisdiction of organization of each Company Subsidiary. All the outstanding shares of capital stock of, or other equity interests in, each Company Subsidiary are duly authorized, have been validly issued, are fully paid, non-assessable and free of preemptive rights, and are owned directly or indirectly by the Company free and clear of all Encumbrances, except for such transfer restrictions of general applicability as may be provided under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (the *Securities Act*) and other applicable securities laws and rules and regulations promulgated thereunder.

(c) The Company has delivered to Parent complete and correct copies of the certificate of incorporation and bylaws (or other comparable organizational documents) of the Company and each Company Subsidiary, in each case as amended through the date of this Agreement (the *Company Charter Documents*). The Company has made available to Parent and its representatives true and complete copies of the minutes (or, in the case of minutes that have not yet been finalized, a brief summary of the meeting, including in each case a summary of any resolutions adopted by the Company Board) of all meetings of the stockholders, the Company Board and each committee of the Company Board held since January 1, 2007 and equivalent documents of each Company Subsidiary.¹

Section 3.02 Capitalization.

(a) The authorized capital stock of the Company consists of: (i) 100,000,000 shares of common stock, par value \$0.001 per share (each, a *Company Share* and, collectively, the *Company Shares*) and (ii) 5,000,000 shares of Preferred Stock, par value \$0.001 per share. At the close of business on October 23, 2009, (i) 35,157,359 Company Shares were issued and outstanding (and 20,941 Company Shares were issued and held by the Company in its treasury), (ii) an aggregate of 8,446,670 Company Shares were reserved for issuance under the Company Equity Plans (of which 3,928,143 Company Shares were subject to outstanding Company Options granted under the Company Equity Plans), (iii) no Company Shares were subject to outstanding Company Options granted other than under the Company Equity Plans, (iv) no person has made or has the right to make a contribution to the Company ESPP for the current Company ESPP offering period, (v) 3,363,556 Company Shares were subject to outstanding Company Warrants and (vi) no shares of Company Preferred Stock were issued or outstanding. All Company Shares, and Company Shares reserved for issuance upon exercise of the Company Options or the Company Warrants, have been duly authorized and are, or upon issuance in accordance with the terms of the Company Options will be, validly issued, fully paid, non-assessable and free of preemptive rights. *Section 3.02(a)* of the Company Disclosure Letter sets forth a correct and complete list, as of October 23, 2009, of: (i) the outstanding Company Options, the number of Company Shares underlying such Company Options and the holders, exercise prices and expiration dates thereof and (ii) the outstanding Company Warrants, the number of Company Shares underlying such Company Warrants and the holders, exercise prices and expiration dates thereof. Since January 1, 2009, the Company has not issued, or reserved for issuance, any shares

¹ The Company will provide all minutes relating to the strategic process undertaken by the Company upon signing of this Agreement.

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of its capital stock or any securities convertible into or exchangeable or exercisable for any shares of its capital stock, other than pursuant to the Company Options and Company Warrants referred to above that are outstanding as of the date of this Agreement.

(b) There are no outstanding contractual obligations of the Company or any Company Subsidiary (i) restricting the transfer of, (ii) affecting the voting rights of, (iii) requiring the issuance, sale, repurchase, redemption or disposition of, or containing any right of first refusal with respect to, (iv) requiring the registration for sale of, or (v) granting any preemptive or anti-dilutive right with respect to, any Company Shares or any capital stock of the Company or any Company Subsidiary, except pursuant to the Company Options, the Company Warrants and the Voting Agreements. There are no bonds, debentures, notes or other indebtedness or liabilities of the Company or any Company Subsidiary having the right to vote (or convertible into or exchangeable for securities having the right to vote) on any matters on which the stockholders of the Company or any Company Subsidiary may vote.

Section 3.03 Authority; Non-contravention; Voting Requirements.

(a) The Company has all necessary corporate power and authority to execute and deliver this Agreement and the CVR Agreements and, subject to obtaining the approval of the holders of the Company Shares of the adoption of this Agreement as contemplated by *Section 5.05* (the *Company Stockholder Approval*), to perform its obligations hereunder and to consummate the Transactions. The execution, delivery and performance by the Company of this Agreement and the CVR Agreements, and the consummation by it of the Transactions, have been duly authorized and approved by the Company Board, and except for obtaining the Company Stockholder Approval, no other corporate action on the part of the Company or any stockholder of the Company is necessary to authorize the execution, delivery and performance by the Company of this Agreement and the CVR Agreements and the consummation by it of the Transactions. This Agreement has been duly executed and delivered by the Company and, assuming due authorization, execution and delivery hereof by the other parties hereto, constitutes a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except that such enforceability (i) may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar Legal Requirements of general application affecting or relating to the enforcement of creditors' rights generally and (ii) is subject to general principles of equity, whether considered in a proceeding at law or in equity (the *Bankruptcy and Equity Exception*).

(b) The Company Board has, upon the terms and subject to the conditions set forth in this Agreement, unanimously duly adopted resolutions (i) determining that the Transactions are advisable and in the best interests of the Company and its stockholders, (ii) approving this Agreement and the Transactions, including the Merger, in accordance with the DGCL, (iii) directing that this Agreement be submitted to the stockholders of the Company for adoption, and (iv) recommending that the stockholders of the Company adopt this Agreement and approve the Transactions (the *Company Recommendation*).

(c) Neither the execution and delivery of this Agreement nor the CVR Agreements by the Company nor the consummation by the Company of the Transactions, nor compliance by the Company with any of the terms or provisions hereof, will (i) conflict with or violate any provision of the Company Charter Documents or (ii) assuming that the authorizations, consents and approvals referred to in *Section 3.04* and the Company Stockholder Approval are obtained and the filings referred to in *Section 3.04* are made, (x) violate any Legal Requirement applicable to the Company or any Company Subsidiary or (y) violate or constitute a default under any Company Contract, except, in the case of clause (ii), for such violations or defaults as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, impair in any material respect the ability of the Company to perform its obligations hereunder or the ability of Parent to enjoy in all material respects the intended benefit of the Transactions or prevent or materially delay consummation of the Transactions.

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(d) The affirmative vote (in person or by proxy) of the holders of a majority of the issued and outstanding Company Shares in favor of the adoption of this Agreement is the only vote or approval of the holders of any class or series of capital stock of the Company which is necessary to adopt this Agreement and approve the Merger.

Section 3.04 Governmental Approvals.

Except for (i) the filing with the SEC of the Proxy Statement in definitive form, and other filings required under, and compliance with other applicable requirements of, the Exchange Act and the rules of the NASDAQ Capital Market, (ii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, and (iii) any compliance with the blue sky laws of various states, no consents or approvals of, or filings, declarations or registrations with, any Governmental Entity are necessary for the execution and delivery of this Agreement and the CVR Agreements by the Company and the consummation by the Company of the Transactions, other than such consents, approvals, filings, declarations or registrations that, if not obtained, made or given, would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, impair in any material respect the ability of the Company to perform its obligations hereunder or the ability of Parent to enjoy in all material respects the intended benefit of the Transactions or prevent or materially delay consummation of the Transactions.

Section 3.05 Company SEC Documents; Financial Statements.

(a) The Company has filed all required registration statements, prospectuses, forms, reports and proxy statements with the SEC, together with all certifications required pursuant to the Sarbanes-Oxley Act of 2002 (the *Sarbanes-Oxley Act*), from and after January 1, 2006 (collectively, the *Company SEC Documents*). As of their respective effective dates (in the case of Company SEC Documents that are registration statements filed pursuant to the requirements of the Securities Act) and as of their respective SEC filing dates (in the case of all other Company SEC Documents), or if amended or supplemented, as of the date of the last such amendment or supplement, and giving effect to any amendments or supplements thereto filed before the date of this Agreement, the Company SEC Documents complied in all material respects with the requirements of the Exchange Act and the Securities Act, as the case may be, applicable to such Company SEC Documents, and none of the Company SEC Documents as of such respective dates contained any untrue statement of a material fact or omitted to state a 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.

(b) The consolidated financial statements of the Company included in the Company SEC Documents (the *Company Financial Statements*) have been prepared in accordance with GAAP (except, in the case of unaudited interim statements, as indicated in the notes thereto) applied on a consistent basis during the periods involved (except as may be indicated in the notes thereto) and fairly present in all material respects the consolidated financial position of the Company and the consolidated Company Subsidiaries as of the dates thereof and the consolidated results of their operations and cash flows for the periods then ended (subject, in the case of unaudited interim statements, to normal year-end audit adjustments).

(c) Neither the Company nor any Company Subsidiary has any liabilities of any nature (whether accrued, absolute, determined, determinable, fixed or contingent) which (i) would be required to be reflected or reserved against on a consolidated balance sheet of the Company prepared in accordance with GAAP, except liabilities (A) reflected or reserved against in the consolidated balance sheet included in its Quarterly Report filed on Form 10-Q for the quarterly period ended June 30, 2009 (including the notes thereto), included in the Company SEC Documents, (B) incurred pursuant to this Agreement or in connection with the Transactions, (C) incurred since June 30, 2009 in the ordinary course of business, or (D) that have not had, and would not reasonably be expected to have, individually or in the aggregate, a cash expenditure or exposure in excess of \$50,000, or (ii) that are not within subsection (i) but which have had, or would reasonably be expected to have, individually or in the aggregate, a cash expenditure or exposure in excess of \$50,000.

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(d) Since June 30, 2009, except for actions taken in connection with this Agreement and the Transactions, (i) the Company and the Company Subsidiaries have conducted their businesses in all material respects in the ordinary course, and (ii) there has not been any Company Material Adverse Effect or any change, event, development, condition, occurrence or effect that has had or would reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect.

(e) The Company and the Company Subsidiaries have designed and maintain a system of internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) sufficient to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company (i) has designed and maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) to ensure that material information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure, and (ii) has disclosed, to the Knowledge of the Company, based on its most recent evaluation of such disclosure controls and procedures before the date hereof, to the Company's auditors and the audit committee of the Company Board (and has specified in the Company Disclosure Letter) (A) any significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting that are reasonably likely to adversely affect in any material respect the Company's ability to record, process, summarize and report financial information and (B) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls over financial reporting. For purposes of this Agreement, the terms significant deficiency and material weakness shall have the meanings assigned to them by the Public Company Accounting Oversight Board in Auditing Standard No. 2, as in effect on the date hereof.

Section 3.06 Legal Proceedings.

As of the date hereof, there is no pending or, to the Knowledge of the Company, threatened Legal Proceeding against or relating to the Company or any Company Subsidiary, nor is there any injunction, order, judgment, ruling or decree imposed upon the Company or any Company Subsidiary, in each case, by or before any Governmental Entity, that might, individually or in the aggregate, reasonably be expected to result in a judgment against or ultimately payable by the Company in excess of \$50,000 or have a Company Material Adverse Effect, impair in any material respect the ability of the Company to perform its obligations hereunder or prevent or materially delay consummation of the Transactions.

Section 3.07 Compliance With Legal Requirements; Governmental Authorizations; FDA Laws.

(a) The Company and the Company Subsidiaries are in compliance with all Legal Requirements applicable to the Company or any Company Subsidiary, as applicable, except for such non-compliance as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. The Company and the Company Subsidiaries hold all Governmental Authorizations necessary for the lawful conduct of their respective businesses, and all such Governmental Authorizations are valid and in full force and effect, except where the failure to hold the same or of the same to be valid and in full force and effect would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. The Company and the Company Subsidiaries are in compliance with the terms of all Governmental Authorizations, except for such non-compliance as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect.

(b) All facilities operated by the Company and the Company Subsidiaries in connection with the operation of their businesses that are subject to the FDA have been operated in compliance with the Federal Food Drug and Cosmetic Act (21 U.S.C. §§ 301, et seq.) and regulations and guidelines thereunder to the extent applicable, and all similar Legal Requirements applicable to the operation of the business and operations of the Company and the

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Company Subsidiaries (collectively, the *FDA Laws*), except for such failures to be in compliance as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect.

(c) To the Knowledge of the Company, all clinical trials conducted by the Company have been, and are being, conducted in substantial compliance with the requirements of current good clinical practice and all applicable requirements relating to protection of human subjects contained in Title 21, Parts 50, 54, 56 and 312 of the United States Code of Federal Regulations.

(d) To the Knowledge of the Company, none of the Roche parties to the Roche Agreement has encountered any significant adverse data or events (as to toxicology or otherwise) with respect to the Roche Agreement drug development program, nor has any of the Roche parties to the Roche Agreement terminated, or discontinued work under, or expressed an intent to terminate, or to discontinue work under, the Roche Agreement.

Section 3.08 Information Supplied.

(a) The Proxy Statement, and any amendments or supplements thereto, at (i) the time the Registration Statement is declared effective, (ii) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, (iii) the time of the Special Meeting, and (iv) the Effective Time, will comply as to form in all material respects with the applicable requirements of the Securities Act, the Exchange Act and other applicable Legal Requirements.

(b) The Proxy Statement, and any amendments or supplements thereto, do not, and will not, at (i) the time the Registration Statement is declared effective, (ii) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, (iii) the time of the Special Meeting, or (iv) the Effective Time, 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 made therein, in light of the circumstances under which they were made, not misleading.

(c) The representations and warranties contained in this *Section 3.08* will not apply to statements or omissions included, or incorporated by reference, in the Proxy Statement based upon information furnished in writing to the Company by Parent or Merger Sub specifically for use therein.

(d) The information furnished and to be furnished in writing by the Company to Parent specifically for use in the Registration Statement, and any amendments or supplements thereto, does not, and will not, at (A) the time the Registration Statement is declared effective, (B) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, (C) the time of the Special Meeting, or (D) the Effective Time, 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 made therein, in light of the circumstances under which they were made, not misleading.

Section 3.09 Tax Matters.

(a)(i) Each of the Company and the Company Subsidiaries has timely filed, or has caused to be timely filed on its behalf (taking into account any extension of time within which to file), all material Tax Returns required to be filed by it, and all such filed Tax Returns are correct and complete in all material respects; (ii) all Taxes shown to be due on such Tax Returns have been timely paid; (iii) no deficiency with respect to Taxes has been proposed, asserted or assessed in writing against the Company or any Company Subsidiary which have not been fully paid or adequately reserved in the Company SEC Documents; and (iv) to the Knowledge of the Company, no audit or other administrative or court proceedings are pending with any Governmental Entity with respect to Taxes of the Company or any Company Subsidiary, and no written notice thereof has been received.

(b) Neither the Company nor any Company Subsidiary is a party to or bound by any material Tax allocation or sharing agreement (other than any such agreement solely between or among the Company and any of its Subsidiaries).

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(c) To the Knowledge of the Company, neither the Company nor any Company Subsidiary (i) has been a member of an affiliated group filing a consolidated federal income Tax Return (other than a group the common parent of which was the Company) or (ii) has any liability for the Taxes of any Person (other than the Company or any Company Subsidiary) under United States Treasury Regulation Section 1.1502-6 (or any similar provision of any Legal Requirement), as a transferee or successor, by Contract, or otherwise.

(d) There are no liens for Taxes upon any material property or other material assets of the Company or any Company Subsidiary, except liens for Taxes not yet due and payable and liens for Taxes that are being contested in good faith by appropriate proceedings.

(e) All material Taxes required to be withheld, collected or deposited by or with respect to the Company and each of the Company Subsidiaries have been timely withheld, collected or deposited, as the case may be, and to the extent required, have been paid to the relevant Tax authority or other Governmental Entity, and to the Knowledge of the Company no Taxes so required have not been so paid.

(f) Neither the Company nor any Company Subsidiary is a party to any agreement, contract, arrangement or plan that has resulted or would result, individually or in the aggregate, in the payment of any excess parachute payment within the meaning of Section 280G of the Code (or any corresponding provision of state, local or foreign Tax law).

(g) No material deduction by the Company or any Company Subsidiary in respect of any applicable employee remuneration (within the meaning of Section 162(m) of the Code) has been disallowed or is subject to disallowance by reason of Section 162(m) of the Code.

(h) Neither the Company nor any Company Subsidiary has been a party to a transaction governed in whole or part by Code Section 355.

(i) The Company's Board of Directors has taken into full consideration the likelihood that the taxable gain or loss of holders of Company Shares as a result of the Merger may be based on closed transaction treatment (which might result, depending on the value assigned to the CVRs and individual tax circumstances, in some holders of Company Shares owing more in income tax in respect of the disposition of their Company Shares in the Merger than their cash portion of the Merger Consideration); the likelihood that the transferability of the CVRs makes closed transaction tax treatment more likely; that Parent may disclose, in the Registration Statement and its prospectus, Parent's view that it is more likely that the IRS would take the position that the taxable gain or loss of holders of Company Shares as a result of the Merger would be based on closed transaction treatment than that the IRS would take the position that the taxable gain or loss of holders of Company Shares as a result of the Merger would be based on open transaction treatment; that the tax value assigned to the CVRs for the purposes of closed transaction tax treatment might differ from the tax value which the Company or any holder of Company Shares might consider to be appropriate or accurate; and that it might not be possible for holders of CVRs to sell their CVRs for the full tax value assigned to the CVRs for the purposes of closed transaction tax treatment.

Section 3.10 Employee Benefits and Labor Matters.

(a) *Section 3.10(a)* of the Company Disclosure Letter lists each employee benefit plan (as defined in Section 3(3) of ERISA), and any other material employee plan or agreement maintained by the Company or any Company Subsidiary and with respect to which the Company or any Company Subsidiary would reasonably be expected to have any material liability (each, a *Company Plan*). The Company has made available to Parent correct and complete copies of (i) each Company Plan (or, in the case of any such Company Plan that is unwritten, descriptions of the material terms thereof), (ii) the most recent annual report on Form 5500 required to be filed with the Internal Revenue Service (the *IRS*) with respect to each Company Plan (if any such report was required), (iii) the most recent summary plan description for each Company Plan for which such summary plan description is required and (iv) each material trust agreement and insurance or group annuity Contract relating to

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any Company Plan. Each Company Plan maintained, contributed to or required to be contributed to by the Company or any Company Subsidiary has been administered in all material respects in accordance with its terms. The Company, the Company Subsidiaries and all the Company Plans are all in material compliance with the applicable provisions of ERISA, the Code and all other applicable Legal Requirements. All Company Plans that constitute employee pension plans (as defined in Section 3(3) of ERISA) and are intended to be Tax qualified under Section 401(a) of the Code (each, a *Company Pension Plan*) have received an opinion or determination letter from the IRS and are expressly identified as such in Section 3.10(a) of the Company Disclosure Letter. The Company has made available to Parent a correct and complete copy of the most recent opinion or determination letter received with respect to each Company Pension Plan maintained, contributed to or required to be contributed to by the Company or any Company Subsidiary, as well as a correct and complete copy of each pending application for an opinion or a determination letter, if any. Neither the Company nor any Company Subsidiary has contributed or has been obligated to contribute to an employee benefit plan subject to Title IV of ERISA, a multiemployer plan, as defined in Section 3(37) of ERISA, or an employee benefit plan subject to Sections 4063 or 4064 of ERISA.

(b) Neither the Company, nor any Company Subsidiary has any material liability for life, health, medical or other welfare benefits for former employees or beneficiaries or dependents thereof under Company Plans, other than Company Pension Plans and other than as required by Section 4980B of the Code, Part 6 of Title I of ERISA or other applicable Legal Requirement.

(c) There are no pending or, to the Company's Knowledge, threatened, claims, lawsuits, arbitrations or audits asserted or instituted against any Company Plan, any fiduciary (as defined by Section 3(21) of ERISA) thereto, the Company, any Company Subsidiary or any employee or administrator thereof in connection with the existence, operation or administration of a Company Plan, other than routine claims for benefits.

(d) Neither the Company nor any Company Subsidiary is a party to a collective bargaining agreement and no labor union has been certified to represent any employee of the Company or any Company Subsidiary or, to the Knowledge of the Company, has applied to represent or is attempting to organize so as to represent such employees.

(e) *Section 3.10(e)* of the Company Disclosure Letter lists each material (i) stay or severance or bonus or employment agreement with directors, officers or employees of or consultants to the Company or any Company Subsidiary; or (ii) stay or severance or bonus program or policy of the Company or any Company Subsidiary with or relating to its employees.

Section 3.11 Contracts.

(a) Except for Contracts filed as exhibits to the Filed Company SEC Documents, *Section 3.11(a)* of the Company Disclosure Letter sets forth a correct and complete list, and the Company has made available to Parent correct and complete copies, of all Contracts (including all material amendments, modifications, extensions or renewals with respect thereto, but excluding all names, terms and conditions that have been redacted in compliance with the terms of each such Contract or with applicable Legal Requirements governing the sharing of information) to which the Company or any Company Subsidiary is a party as of the date of this Agreement (collectively, the *Company Contracts*):

(i) required to be filed as an exhibit to any report of the Company filed pursuant to the Exchange Act of the type described in Item 601(b) of Regulation S-K promulgated by the SEC;

(ii) that contain a covenant restricting the ability of the Company or any Company Subsidiary to compete in any business or with any Person or in any geographic area;

(iii) with any Affiliate of the Company, other than those to which the only parties are the Company and any of the wholly-owned Company Subsidiaries;

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(iv) which primarily relates to (A) the granting to the Company or any Company Subsidiary of any IP License in or to any Company Intellectual Property owned by a third party, with annual license fees of more than \$25,000, or (B) the granting by the Company or any Company Subsidiary to a third party of any IP License in or to any Company Intellectual Property, with annual license fees of more than \$25,000, excluding click-wrap or shrink-wrap agreements, agreements contained in or pertaining to off-the-shelf Software, or the terms of use or service for any web site;

(v) relating to any material joint venture, partnership or other similar arrangement involving co-investment, collaboration or partnering with a third party;

(vi) with a Governmental Entity (other than ordinary course Contracts with Governmental Entities as a customer);

(vii) pursuant to which any Indebtedness of the Company or any Company Subsidiary is outstanding or may be incurred or pursuant to which the Company or any Company Subsidiary has guaranteed any Indebtedness of any other Person (other than the Company or any Company Subsidiary and excluding Company trade payables arising in the ordinary course of business);

(viii) pursuant to which the Company, any Company Subsidiary or any other party thereto has continuing obligations, rights or interests relating to the research, development, clinical trial, distribution, supply, manufacture, marketing or co-promotion of, or collaboration with respect to, any product or product candidate for which the Company or any Company Subsidiary is currently engaged in research or development, including manufacture or supply services or Contracts with contract research organizations for clinical trials-related services; and

(ix) which are to any extent executory and relate to (A) the disposition or acquisition of any material assets or properties, other than dispositions or acquisitions in the ordinary course of business, or (B) any merger or other business combination transaction.

(b) Each Company Contract is valid and binding on the Company and each Company Subsidiary which is party thereto and, to the Knowledge of the Company, each other party thereto, subject to the Bankruptcy and Equity Exception, and is in full force and effect, and the Company and each Company Subsidiary has performed all obligations required to be performed by it before the date hereof under each Company Contract and, to the Knowledge of the Company, each other party to each Company Contract has performed all obligations required to be performed by it before the date hereof under such Company Contract, except for such failures to be in compliance as would not, individually or in the aggregate, reasonably be expected to result in an allegation of material breach thereof.

(c) The Company has not received or enjoyed any benefit, inducement or incentive from any Governmental Entity which will, as a result of this Agreement or the Transactions or the cessation of the Company's business operations in the geographic area where they are currently conducted or the termination of all or substantially all Company employees, result in any clawback, recapture, recoupment, repayment obligation, penalty, Tax or other such liability.

Section 3.12 Environmental Matters.

(a) To the Knowledge of the Company, the Company and each Company Subsidiary is in compliance with (i) all applicable Legal Requirements concerning pollution or protection of the environment, including without limitation all those relating to the presence, use, production, generation, handling, transportation, treatment, storage, disposal, distribution, labeling, testing, processing, discharge, release, threatened release, control or cleanup of any hazardous materials, substances or wastes, as such requirements are enacted and in effect on the date hereof (*Environmental Laws*), and (ii) any Governmental Authorizations required under applicable Environmental Laws for the current operations of the Company and each Company Subsidiary.

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(b) Neither the Company nor any Company Subsidiary has received any written notice or report in the past three years regarding any actual or alleged violation of any applicable Environmental Law or any liabilities arising under applicable Environmental Laws. The Company has delivered, or made available to Parent, copies of all environmental assessments, reports, audits, studies, analyses or tests possessed by, or reasonably available to, the Company and Company Subsidiaries pertaining to compliance with, or liability under, any Environmental Laws, in each case relating to the owned or leased real estate or other assets and properties of the Company and the Company Subsidiaries.

(c) The Company has delivered to Parent complete and accurate copies of all environmental reports or assessments referenced on *Section 3.12(c)* of the Company Disclosure Letter and, since the date of such reports or assessments, to the Knowledge of the Company, no facts or conditions have arisen or been discovered which would reasonably be expected to materially alter or modify such reports or assessments if they were to be updated.

Section 3.13 Intellectual Property.

(a) *Section 3.13(a)* of the Company Disclosure Letter sets forth as of the date hereof a true, complete and correct list of all U.S. and foreign (i) Patents; (ii) registered Trademarks; (iii) registered Copyrights; (iv) internet domain registrations and (v) Software (other than standard and duly licensed off-the-shelf Software), in each case owned or purported to be owned or licensed by the Company or any Company Subsidiary and used or held for use in the conduct of the business of the Company or any Company Subsidiary as of the date of this Agreement. The Company or a Company Subsidiary is the sole and exclusive assignee (or otherwise the sole and exclusive owner) of all of the Company Intellectual Property set forth in *Section 3.13(a)* of the Company Disclosure Letter, except for in-licensed Intellectual Property set forth on such *Section 3.13(a)* of the Company Disclosure Letter, all of which is licensed by the Company pursuant to valid and subsisting licenses under agreements of which, to the Knowledge of the Company, neither party is in breach and which neither party has terminated nor expressed an intent to do so. The name of each licensor and the date of the license agreement are set forth next to the respective item of in-licensed Intellectual Property on such *Section 3.13(a)* of the Company Disclosure Letter.

(b) The Company or the Company Subsidiaries own or possess appropriate licenses to all Company Intellectual Property. To the Knowledge of the Company, the Company or the Company Subsidiaries have sufficient legal rights to use, sell or license all material Company Intellectual Property.

(c) All Trademark registrations, Patents issued and Copyright registrations owned by the Company or any Company Subsidiary and included in the Company Intellectual Property are subsisting, in full force and effect and have not lapsed, expired or been abandoned, and, to the Knowledge of the Company, are not the subject of any opposition filed with the United States Patent and Trademark Office or any other Intellectual Property registry, or the subject of any proceeding challenging their validity or enforceability.

(d) To the Knowledge of the Company, the conduct of the businesses of the Company and the Company Subsidiaries does not and has not been alleged to infringe, misappropriate, or otherwise violate (and is not, as a practical matter, blocked by) any Intellectual Property rights of any third party; and no settlement agreements, consents, orders, forbearances to sue or similar obligations to which the Company or any Company Subsidiary is a party limit or restrict any rights of the Company or any Company Subsidiary in and to any Company Intellectual Property that is owned by the Company or any Company Subsidiary.

Section 3.14 Insurance.

The Company's policies or Contracts of insurance are in full force and effect and together constitute an insurance program that is customary for NASDAQ-listed pre-revenue biotechnology companies. There is no material claim pending under any policies or Contracts of insurance maintained by the Company or any Company Subsidiary as to which coverage has been questioned, denied or disputed by the underwriters of such

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policies or Contracts. All premiums due and payable to date under all such policies and Contracts have been paid and the Company and the Company Subsidiaries are otherwise in compliance in all material respects with the terms of such policies and Contracts.

Section 3.15 Certain Business Relationships with Affiliates.

Except as disclosed in the Filed Company SEC Documents, from and after January 1, 2009 and before the date hereof, no event has occurred, and there has been no transaction, or series of similar transactions, agreements, arrangements or understandings to which the Company or any Company Subsidiary is a party, that would be required to be reported pursuant to Item 404 of Regulation S-K promulgated by the SEC.

Section 3.16 Opinion of Financial Advisor.

The Company Board has received the opinion of Merriman Curhan Ford Group, Inc. to the effect that, as of the date of such opinion, and subject to the various assumptions and qualifications set forth therein, the Merger Consideration is fair to holders of Company Shares from a financial point of view.

Section 3.17 Brokers and Other Advisors.

Except for Merriman Curhan Ford Group, Inc., the fees and expenses of which will be paid by the Company, no broker, investment banker, financial advisor, agent or other Person is entitled to any broker's, finder's, financial advisor's, agent's or other similar fee or commission in connection with the Transactions based upon arrangements made by or on behalf of the Company or any Company Subsidiary.

Section 3.18 Section 203 of the DGCL Not Applicable; State Takeover Statutes.

Assuming the accuracy of Parent's representation and warranty contained in *Section 4.11*, the Company has taken all necessary actions so that the provisions of Section 203 of the DGCL will not apply to this Agreement or the Merger. To the Knowledge of the Company, no other state takeover statute is applicable to the Merger. The Company does not have any poison pill or similar antitakeover device.

Section 3.19 No Other Representations or Warranties.

Except for the representations and warranties made by the Company in this *Article III* or in the certificates to be delivered pursuant to *Section 6.02(a)* and *Section 6.02(b)*, neither Company nor any other Person makes any representation or warranty with respect to the Company or the Company Subsidiaries or their respective businesses, operations, assets, liabilities, condition (financial or otherwise) or prospects, notwithstanding the delivery or disclosure to Parent or any of its Affiliates or Representatives of any documentation, forecasts or other information with respect to any one or more of the foregoing.

Section 3.20 No Reliance.

Notwithstanding anything contained in this Agreement to the contrary, the Company acknowledges and agrees that (a) neither Parent or Merger Sub nor any Person on behalf of Parent or Merger Sub is making any representations or warranties whatsoever, express or implied, beyond those expressly made by Parent or Merger Sub in *Article IV* or in the certificates to be delivered pursuant to *Section 6.03(a)* and *Section 6.03(b)*, and (b) the Company has not been induced by, or relied upon, any representations, warranties or statements (written or oral), whether express or implied, made by any Person, that are not expressly set forth in *Article IV* or in the certificates to be delivered pursuant to *Section 6.03(a)* and *Section 6.03(b)*. Without limiting the generality of the foregoing, the Company acknowledges that no representations or warranties are made with respect to any projections, forecasts, estimates, budgets or information as to prospects with respect to Parent and its Subsidiaries that may have been made available to the Company or any of its Representatives.

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ARTICLE IV

REPRESENTATIONS AND WARRANTIES OF PARENT AND MERGER SUB

Parent and Merger Sub hereby jointly and severally represent and warrant to the Company that except as set forth in the Parent SEC Documents filed with or furnished to the SEC before the date of this Agreement (the *Filed Parent SEC Documents*) (it being understood that any matter set forth in such Filed Parent SEC Documents shall be deemed disclosed with respect to any Section of this *Article IV* to which the matter relates, to the extent the relevance of such matter to such Section is reasonably apparent):

Section 4.01 Organization and Standing.

(a) Parent is a corporation duly organized, validly existing and in good standing under the Legal Requirements of the State of Delaware and Merger Sub is a corporation duly organized, validly existing and in good standing under the Legal Requirements of the State of Delaware. Each of Parent and Merger Sub has all requisite corporate power and authority necessary to own or lease all of its properties and assets and to carry on its business as it is now being conducted. Each of Parent and Merger Sub is duly licensed or qualified to do business and is in good standing in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned or leased or held under license by it makes such licensing or qualification necessary, except where the failure to be so licensed, qualified or in good standing would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect, impair in any material respect the ability of Parent or Merger Sub to perform its obligations hereunder or prevent or materially delay consummation of the Transactions.

(b) Parent has delivered to the Company complete and correct copies of the certificate of incorporation and bylaws of Parent and Merger Sub, in each case as amended through the date of this Agreement.

Section 4.02 Authority; Non-contravention.

(a) Each of Parent and Merger Sub has all necessary corporate power and authority to (as applicable) execute and deliver this Agreement and the CVR Agreements, to perform their respective obligations hereunder and to consummate the Transactions. The execution, delivery and performance by Parent and Merger Sub of (as applicable) this Agreement and the CVR Agreements, and the consummation by Parent and Merger Sub of the Transactions, have been duly authorized and approved by their respective boards of directors and adopted by Parent as the sole stockholder of Merger Sub, and no other corporate action on the part of Parent and Merger Sub or any stockholders of Parent is necessary to authorize the execution, delivery and performance by Parent and Merger Sub of (as applicable) this Agreement and the CVR Agreements and the consummation by them of the Transactions. This Agreement has been duly executed and delivered by Parent and Merger Sub and, assuming due authorization, execution and delivery hereof by the Company, constitutes a legal, valid and binding obligation of each of Parent and Merger Sub, enforceable against each of them in accordance with its terms, subject to the Bankruptcy and Equity Exception.

(b) Neither the execution and delivery of this Agreement by Parent and Merger Sub, nor the execution and delivery of the CVR Agreements by Parent, nor the consummation by Parent or Merger Sub of the Transactions, nor compliance by Parent or Merger Sub with any of the terms or provisions hereof, will (i) conflict with or violate any provision of the certificate of incorporation or bylaws of Parent or Merger Sub or (ii) assuming that the authorizations, consents and approvals referred to in *Section 4.04* are obtained and the filings referred to in *Section 4.04* are made, (x) violate any Legal Requirement of any Governmental Entity applicable to Parent or any of its Subsidiaries, or (y) violate or constitute a default under any of the terms, conditions or provisions of any Contract to which Parent, Merger Sub or any of their respective Subsidiaries is a party, except, in the case of clause (ii), for such violations or defaults as would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect, impair in any material respect the ability of Parent or Merger Sub to perform their obligations hereunder or prevent or materially delay consummation of the Transactions.

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(c) No vote of the holders of any class or series of Parent's capital stock or other securities is necessary for the consummation by Parent of the Transactions.

Section 4.03 Ownership and Operations of Merger Sub.

Parent owns beneficially and of record all of the outstanding shares of Merger Sub. Merger Sub was formed solely for the purpose of engaging in the Transactions, has engaged in no other business activities and has conducted its operations only as contemplated hereby.

Section 4.04 Governmental Approvals.

Except for (i) the filing with the SEC of the Registration Statement and other filings required under, and compliance with other applicable requirements of, the Exchange Act and the rules of the Exchange, (ii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, and (iii) any compliance with the blue sky laws of various states, no consents or approvals of, or filings, declarations or registrations with, any Governmental Entity are necessary for the execution, delivery and performance of this Agreement by Parent and Merger Sub, the execution, delivery and performance of the CVR Agreements by Parent or the consummation by Parent and Merger Sub of the Transactions, other than such other consents, approvals, filings, declarations or registrations that, if not obtained, made or given, would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect, impair in any material respect the ability of Parent or Merger Sub to perform their obligations hereunder or prevent or materially delay consummation of the Transactions.

Section 4.05 Parent SEC Documents; Financial Statements.

(a) Parent has filed all required registration statements, prospectuses, forms, reports and proxy statements with the SEC, together with all certifications required pursuant to the Sarbanes-Oxley Act, from and after January 1, 2006 (collectively, the *Parent SEC Documents*). As of their respective effective dates (in the case of Parent SEC Documents that are registration statements filed pursuant to the requirements of the Securities Act) and as of their respective SEC filing dates (in the case of all other Parent SEC Documents), or if amended or supplemented, as of the date of the last such amendment or supplement, and giving effect to any amendments or supplements thereto filed before the date of this Agreement, the Parent SEC Documents complied in all material respects with the requirements of the Exchange Act and the Securities Act, as the case may be, applicable to such Parent SEC Documents, and none of the Parent SEC Documents as of such respective dates contained any untrue statement of a material fact or omitted to state a 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.

(b) The consolidated financial statements of Parent included in the Parent SEC Documents (the *Parent Financial Statements*) have been prepared in accordance with GAAP (except, in the case of unaudited interim statements, as indicated in the notes thereto) applied on a consistent basis during the periods involved (except as may be indicated in the notes thereto) and fairly present in all material respects the consolidated financial position of Parent and the consolidated Parent Subsidiaries as of the dates thereof and the consolidated results of their operations and cash flows for the periods then ended (subject, in the case of unaudited interim statements, to normal year-end audit adjustments).

(c) Neither Parent nor any Parent Subsidiary has any liabilities of any nature (whether accrued, absolute, determined, determinable, fixed or contingent) which would be required to be reflected or reserved against on a consolidated balance sheet of Parent prepared in accordance with GAAP, except liabilities (i) reflected or reserved against in its consolidated balance sheet included in its Quarterly Report filed on Form 10-Q for the quarterly period ended June 30, 2009 (including the notes thereto), included in the Parent SEC Documents, (ii) incurred pursuant to this Agreement or in connection with the Transactions, (iii) incurred since June 30, 2009 in the ordinary course of business, or (iv) that have not had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect.

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(d) Since June 30, 2009, except for actions taken in connection with this Agreement and the Transactions and the Neurogen Corporation acquisition activities, (i) Parent and the Parent Subsidiaries have conducted their businesses in the ordinary course, and (ii) there has not been any Parent Material Adverse Effect or any change, event, development, condition, occurrence or effect that has had or would reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect.

(e) Parent and the Parent Subsidiaries have designed and maintain a system of internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) sufficient to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Parent (i) has designed and maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) to ensure that material information required to be disclosed by Parent in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to Parent's management as appropriate to allow timely decisions regarding required disclosure, and (ii) to the Knowledge of Parent, has disclosed, based on its most recent evaluation of such disclosure controls and procedures before the date hereof, to Parent's auditors and the audit committee of the Board of Directors of Parent (A) any significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting that are reasonably likely to adversely affect in any material respect Parent's ability to record, process, summarize and report financial information and (B) any fraud, whether or not material, that involves management or other employees who have a significant role in Parent's internal controls over financial reporting.

Section 4.06 Legal Proceedings.

As of the date hereof, there is no pending or, to the Knowledge of Parent, threatened Legal Proceeding against or relating to Parent or any Parent Subsidiary, nor is there any injunction, order, judgment, ruling or decree imposed upon Parent or any Parent Subsidiary, in each case, by or before any Governmental Entity, that would, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect, impair in any material respect the ability of Parent or Merger Sub to perform their obligations hereunder or prevent or materially delay consummation of the Transactions).

Section 4.07 Compliance With Legal Requirements.

Parent and the Parent Subsidiaries are in compliance with all Legal Requirements applicable to Parent or any Parent Subsidiary, as applicable, except for such non-compliance as would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect. Parent and the Parent Subsidiaries hold all Governmental Authorizations necessary for the lawful conduct of their respective businesses, and all such Governmental Authorizations are valid and in full force and effect, except where the failure to hold the same or of the same to be valid and in full force and effect would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect. Parent and the Parent Subsidiaries are in compliance with the terms of all Governmental Authorizations, except for such non-compliance as would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

Section 4.08 Information Supplied.

(a) The Registration Statement, together with any amendments or supplements thereto, at (A) the time the Registration Statement is declared effective, (B) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, (C) the time of the Special Meeting, and (D) the Effective Time, will comply as to form in all material respects with the applicable requirements of the Securities Act, the Exchange Act and other applicable Laws.

(b) The Registration Statement and the information provided by Parent or Merger Sub to the Company in writing expressly for inclusion in the Proxy Statement, and any amendments or supplements thereto, do not, and

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will not, at (A) the time the Registration Statement is declared effective, (B) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, (C) the time of the Special Meeting, or (D) the Effective Time, 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 made therein, in light of the circumstances under which they were made, not misleading.

(c) The representations and warranties contained in this *Section 4.08* will not apply to statements or omissions included in the Registration Statement based upon information furnished in writing to Parent or Merger Sub by the Company specifically for use therein.

Section 4.09 Tax Matters.

(a) Except for those matters that would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect: (i) each of Parent and the Parent Subsidiaries has timely filed, or has caused to be timely filed on its behalf (taking into account any extension of time within which to file), all material Tax Returns required to be filed by it, and all such filed Tax Returns are correct and complete in all material respects; (ii) all Taxes shown to be due on such Tax Returns have been timely paid; (iii) no deficiency with respect to Taxes has been proposed, asserted or assessed in writing against Parent or any Parent Subsidiary which have not been fully paid or adequately reserved in the Parent SEC Documents; and (iv) to the Knowledge of Parent, no audit or other administrative or court proceedings are pending with any Governmental Entity with respect to Taxes of Parent or any Parent Subsidiary (except for pending audits of Parent's 2006 and 2007 federal income tax returns), and no written notice thereof has been received.

(b) Neither Parent nor any Parent Subsidiary is a party to or bound by any material Tax allocation or sharing agreement (other than any such agreement solely between or among Parent and any of the Parent Subsidiaries).

(c) To the Knowledge of Parent, neither Parent nor any Parent Subsidiary (i) has been a member of an affiliated group filing a consolidated federal income Tax Return (other than a group the common parent of which was Parent) or (ii) has any liability for the Taxes of any Person (other than Parent or any Parent Subsidiary) under United States Treasury Regulation Section 1.1502-6 (or any similar provision of any Legal Requirement), as a transferee or successor, by Contract, or otherwise.

(d) There are no liens for Taxes upon any material property or other material assets of Parent or any Parent Subsidiary, except liens for Taxes not yet due and payable and liens for Taxes that are being contested in good faith by appropriate proceedings.

(e) All material Taxes required to be withheld, collected or deposited by or with respect to Parent and each of Parent Subsidiaries have been timely withheld, collected or deposited, as the case may be, and to the extent required, have been paid to the relevant Tax authority or other Governmental Entity, except for such failure to do any of the foregoing as would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

Section 4.10 Brokers and Other Advisors.

No broker, investment banker, financial advisor, agent or other Person is entitled to any broker's, finder's, financial advisor's, agent's or other similar fee or commission in connection with the Transactions based upon arrangements made by or on behalf of Parent or any Parent Subsidiary.

Section 4.11 Ownership of Company Shares.

Neither Parent nor any of its Affiliates beneficially owns (as defined in Rule 13d-3 of the Exchange Act) any Company Shares as of the date hereof.

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Section 4.12 Available Funds.

Parent has, or will have, sufficient funds available to consummate the Transactions.

Section 4.13 No Other Representations or Warranties.

Except for the representations and warranties made by Parent in this *Article IV* or in the certificates to be delivered pursuant to *Section 6.03(a)* and *Section 6.03(b)*, neither Parent nor any other Person makes any representation or warranty with respect to Parent or the Parent Subsidiaries or their respective businesses, operations, assets, liabilities, condition (financial or otherwise) or prospects, notwithstanding the delivery or disclosure to the Company or any of its Affiliates or Representatives of any documentation, forecasts or other information with respect to any one or more of the foregoing.

Section 4.14 No Reliance.

Notwithstanding anything contained in this Agreement to the contrary, each of Parent and Merger Sub acknowledges and agrees that (a) neither the Company nor any Person on behalf of the Company is making any representations or warranties whatsoever, express or implied, beyond those expressly made by the Company in *Article III* or in the certificates to be delivered pursuant to *Section 6.02(a)* and *Section 6.02(b)*, and (b) none of Parent or Merger Sub has been induced by, or relied upon, any representations, warranties or statements (written or oral), whether express or implied, made by any Person, that are not expressly set forth in *Article III* or in the certificates to be delivered pursuant to *Section 6.02(a)* and *Section 6.02(b)*. Without limiting the generality of the foregoing, each of Parent and Merger Sub acknowledges that no representations or warranties are made with respect to any projections, forecasts, estimates, budgets or information as to prospects with respect to the Company and the Company Subsidiaries that may have been made available to Parent, Merger Sub or any of their respective Representatives.

ARTICLE V

COVENANTS

Section 5.01 Interim Operations of the Company.

(a) The Company agrees that, during the period from the date of this Agreement through the earlier of the Effective Time or the date of termination of this Agreement, except: (i) to the extent Parent shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned); (ii) as set forth in *Section 5.01(a)* of the Company Disclosure Letter; or (iii) as expressly required by this Agreement, the Company shall and shall cause each Company Subsidiary to (A) use its reasonable best efforts to (1) conduct their businesses in the ordinary course of business, (2) preserve intact their present business organizations, (3) maintain satisfactory relations with and keep available the services of their current officers and other key employees and (4) preserve existing relationships with material customers, lenders, suppliers, distributors and others having material business relationships with the Company or any Company Subsidiary and (B) not:

- (1) amend the Company Charter Documents or the equivalent organizational documents of any Company Subsidiary;
- (2) split, combine, subdivide or reclassify any shares of its capital stock;
- (3) declare, set aside or pay any dividend (whether payable in cash, stock or property) with respect to any shares of its capital stock (except with respect to shares of the capital stock of a Company Subsidiary that is directly or indirectly wholly owned by the Company);
- (4) issue, sell, pledge, transfer, deliver, dispose of or encumber any shares of, or securities convertible or exchangeable for, or options or rights to acquire, any shares of its capital stock, voting securities, phantom stock, phantom stock rights, stock based performance units or other securities that derive their value by reference to such capital stock or voting securities, other than the issuance of Company Shares upon the exercise of Company Options or Company Warrants;

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- (5) transfer, lease or license to any third party, or subject to an Encumbrance (except for Permitted Encumbrances), any assets of the Company or any Company Subsidiary (excluding the 7133 Program) other than: (i) sales in the ordinary course of business; or (ii) dispositions of obsolete assets;
- (6) repurchase, redeem or otherwise acquire or offer to repurchase, redeem or otherwise acquire any shares of its capital stock other than pursuant to the forfeiture provisions applicable to the Company Options or pursuant to the exercise or tax withholding provisions applicable to the Company Options;
- (7) acquire (whether pursuant to merger, stock or asset purchase or otherwise) or lease (i) any asset or assets, except for (A) purchases of raw materials, equipment and supplies in the ordinary course of business or (B) capital expenditures (which are subject to *Section 5.01(a)(15)*), or (ii) any equity interests in any Person or any business or division of any Person (except for marketable securities acquired by the Company from time to time in connection with its normal cash management activities);
- (8) incur, issue, repurchase, modify or assume any Indebtedness or guarantee any such Indebtedness;
- (9) make any loans, advances or capital contributions to, or investments in, any other Person other than (i) loans, advances or capital contributions to, or investments in, a Company Subsidiary that is directly or indirectly wholly owned by the Company in the ordinary course of business, (ii) advances to employees in respect of travel and other expenses in the ordinary course of business, and (iii) investments made by the Company in marketable securities in connection with its normal cash management activities;
- (10)(i) increase benefits under any Company Plan, except as required by applicable Legal Requirements, (ii) increase or otherwise change the method for funding or insuring benefits under any Company Plan, except as required by applicable Legal Requirements, (iii) (A) establish, adopt, enter into, amend or terminate any Company Plan that is an employee benefit plan as defined in Section 3(3) of ERISA or other any other arrangement that would be an employee benefit plan under ERISA if it were in existence as of the date of this Agreement, except as required by applicable Legal Requirements, or (B) establish, adopt, enter into, amend or terminate any collective bargaining agreement, Company Plan that is not an employee benefit plan under ERISA or any plan, agreement, program, policy, trust, fund or other arrangement that would be a Company Plan that is not an employee benefit plan under ERISA if it were in existence as of the date of this Agreement, except in the ordinary course of business or as required by applicable Legal Requirements (including, without limitation, Section 409A of the Code), (iv) grant any increase in the rates of salaries, compensation or fringe or other benefits payable to any Executive (other than as required by applicable Legal Requirements or pursuant to non-discretionary provisions of Contracts in effect as of the date hereof), (v) grant any increase in the rates of salaries, compensation or fringe or other benefits payable to any employee, except increases that are required by Legal Requirements or pursuant to non-discretionary provisions of Contracts in effect as of the date hereof, (vi) grant or pay any bonus of any kind or amount whatsoever to any current or former director or officer or any employee of the Company or any Company Subsidiary (other than pursuant to the non-discretionary provisions of Contracts in effect as of the date of this Agreement) or (vii) grant or pay any stay or severance or termination pay or increase in any manner the stay or severance or termination pay of any current or former director, officer, employee or consultant of the Company or any Company Subsidiary other than as required by applicable Legal Requirements or pursuant to non-discretionary provisions of Contracts in effect as of the date hereof;
- (11) settle or compromise any Legal Proceeding (whether or not commenced before the date of this Agreement), other than settlements or compromises of Legal Proceedings where the amount paid (after giving effect to insurance proceeds actually received) in settlement or compromise does not exceed the Company's reserves on its books therefor by more than \$10,000, or for any Legal Proceeding for which the Company has not yet reserved, in an amount therefor that does not exceed \$20,000;
- (12) enter into any new, or amend or prematurely terminate any current, Company Contract or waive, release or assign any rights or claims under any Company Contract (except (i) in the ordinary course of business or (ii) where the failure to amend or terminate a Company Contract would, in the reasonable judgment of the Company Board, have a Company Material Adverse Effect);

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(13) change any of its methods of accounting or accounting practices in any material respect, other than changes required by GAAP or Legal Requirements;

(14) make any material Tax election (except for elections made in the ordinary course of business);

(15) make any capital expenditure that is not contemplated by the capital expenditure budget set forth in *Section 5.01(a)(15)* of the Company Disclosure Letter (a *Non-Budgeted Capital Expenditure*), except that the Company or any Company Subsidiary: (A) may make any Non-Budgeted Capital Expenditure that does not individually exceed \$5,000 in amount; and (B) may make any Non-Budgeted Capital Expenditure that, when added to all other Non-Budgeted Capital Expenditures made by the Company and the Company Subsidiaries since the date of this Agreement, would not exceed \$25,000 in the aggregate;

(16) adopt a plan of complete or partial liquidation or dissolution;

(17) take any action that is intended or would reasonably be expected to result in any of the conditions to the Merger set forth in *Article VI* not being satisfied on or before the Outside Date; or

(18) authorize or enter into any agreement or otherwise make any commitment to do any of the foregoing.

(b) Without in any way limiting any party's rights or obligations under this Agreement, the parties understand and agree that (i) nothing contained in this Agreement shall give Parent or Merger Sub, directly or indirectly, the right to control or direct the Company's operations before the Effective Time, and (ii) before the Effective Time, the Company shall exercise, consistent with the terms and conditions of this Agreement, complete control and supervision over its operations.

Section 5.02 Interim Operations of Parent.

(a) Parent agrees that, during the period from the date of this Agreement through the earlier of the Effective Time or the date of termination of this Agreement, except: (i) to the extent the Company shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned); or (ii) as expressly required by this Agreement, Parent shall and shall cause each Parent Subsidiary to (A) use its reasonable best efforts to conduct their businesses in the ordinary course of business or otherwise to an anticipated advantage, and (B) not:

(1) amend its certificate of incorporation;

(2) split, combine, subdivide or reclassify any shares of its capital stock;

(3) declare, set aside or pay any dividend (whether payable in cash, stock or property) with respect to any shares of its capital stock (except with respect to shares of the capital stock of a Parent Subsidiary that is directly or indirectly wholly owned by Parent);

(4) change any of its methods of accounting or accounting practices in any material respect, other than changes required by GAAP or Legal Requirements;

(5) adopt a plan of complete or partial liquidation or dissolution;

(6) make any material Tax election (except for elections made in the ordinary course of business);

(7) take any action that is intended or would reasonably be expected to result in any of the conditions to the Merger set forth in *Article VI* not being satisfied on or before the Outside Date; or

(8) authorize or enter into any agreement or otherwise make any commitment to do any of the foregoing.

(b) Without in any way limiting any party's rights or obligations under this Agreement, the parties understand and agree that (i) nothing contained in this Agreement shall give the Company, directly or indirectly, the right to control or direct the Parent's operations, and (ii) Parent shall exercise, consistent with the terms and conditions of this Agreement, complete control and supervision over its operations.

Table of Contents**Section 5.03 No Solicitation.**

(a) At all times during the period commencing with the execution and delivery of this Agreement and continuing until the earlier to occur of the termination of this Agreement pursuant to *Section 7.01* and the Effective Time, the Company shall not, shall cause all of the Company Subsidiaries not to and shall not authorize or permit the Company's and the Company Subsidiaries' directors, officers, employees, investment bankers, attorneys and other agents or representatives (collectively, *Representatives*) to, directly or indirectly, (i) solicit, initiate, knowingly encourage or knowingly induce the making, submission or announcement of an Acquisition Proposal; (ii) furnish to any Person any non-public information relating to the Company in response to or in connection with an Acquisition Proposal (for avoidance of doubt, it being understood that the foregoing shall not prohibit the Company, any Company Subsidiary or any of their respective Representatives from furnishing, in the ordinary course of business, any non-public information to (A) any actual or potential customer, supplier, distributor, licensor, licensee, partner or other Person to the extent necessary to facilitate any business dealings between the Company and such actual or potential customer, supplier, distributor, licensor, licensee, partner or other Person that are unrelated to any Acquisition Proposal, or (B) a Governmental Entity); (iii) participate or engage in discussions or negotiations with any Person with respect to an Acquisition Proposal (for avoidance of doubt, it being understood that the foregoing shall not prohibit the Company, any Company Subsidiary or any of its Representatives from making such Person aware of the restrictions of this *Section 5.03* in response to the receipt of an Acquisition Proposal, nor shall it prohibit the Company from engaging in discussions with its Representatives to the extent reasonably necessary to assist the Company in determining how to properly respond to such Acquisition Proposal); or (iv) approve, endorse or recommend to the stockholders of the Company any Acquisition Proposal; *provided, however*, that notwithstanding anything to the contrary contained in this Agreement, at any time before obtaining the Company Stockholder Approval, the Company may, directly or indirectly through its Representatives, (A) engage or participate in discussions or negotiations with any Person (and may engage or participate in discussions or negotiations with such Person's Representatives and potential financing sources) that has made an Acquisition Proposal that the Company Board determines in good faith (after consultation with its outside legal counsel and financial advisor) constitutes or is reasonably likely to lead to a Superior Proposal, and (B) furnish to any such Person described in clause (A) above (including to such Person's Representatives and potential financing sources) any non-public information relating to the Company and the Company Subsidiaries pursuant to a confidentiality agreement (whether executed before or after the date of this Agreement), the terms of which are no less favorable in any material respect to the Company than those contained in the Confidential Disclosure Agreement, dated March 5, 2009, between Parent and the Company (the *Confidentiality Agreement*); and *provided further*, that in the case of any action taken pursuant to clause (A) or clause (B) above, the Company Board shall first have determined in good faith (after consultation with its outside legal counsel) that the failure to take such action is inconsistent with its fiduciary obligations to the stockholders of the Company under applicable Legal Requirements; and contemporaneously with furnishing any nonpublic information to such Person, the Company furnishes such nonpublic information to Parent (to the extent such information has not been previously furnished by the Company to Parent).

(b) Upon the execution and delivery of this Agreement, the Company shall immediately cease and cause to be terminated any active discussions with any Person that relate to any Acquisition Proposal.

(c) Unless the Company Board shall first have determined in good faith (after consultation with its outside legal counsel) that the failure to take the following actions is inconsistent with its fiduciary obligations to the stockholders of the Company under applicable Legal Requirements, the Company agrees not to release or permit the release of any Person from, or to waive or permit the waiver of any provision of, any confidentiality, standstill or similar agreement to which the Company is a party or under which the Company has any rights; *provided, however*, that the expiration or termination of such agreement or provision of such agreement by its own terms shall not be considered to be a violation of the foregoing by the Company.

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Section 5.04 Company Board Recommendation.

(a) Subject to *Section 5.04(c)*, the Company Board shall (i) make the Company Recommendation and (ii) include the Company Recommendation in the Proxy Statement.

(b) Subject to *Section 5.04(c)*, neither the Company Board nor any committee thereof shall (i) withdraw, qualify, modify, change or amend in any manner adverse to Parent or Merger Sub, the Company Recommendation, (ii) approve or recommend any Acquisition Proposal, (iii) except in connection with a termination of this Agreement pursuant to *Section 7.01(f)*, permit the Company or any Company Subsidiary to enter into any Contract (other than a confidentiality agreement as contemplated by *Section 5.03(a)*) with respect to any Acquisition Proposal, or (iv) except in connection with a termination of this Agreement pursuant to *Section 7.01(f)*, resolve or propose to take any action described in clauses (i) through (iii) (each of the foregoing actions described in clauses (i) through (iii) being referred to as a *Company Change in Recommendation*).

(c) Notwithstanding anything to the contrary contained in this Agreement, the Company Board may effect a Company Change in Recommendation at any time before receipt of the Company Stockholder Approval, if (i) (A) the Company Board has received an Acquisition Proposal (that has not been withdrawn) that constitutes a Superior Proposal, (B) the Company Board determines in good faith (after consultation with its outside legal counsel and financial advisor and after considering in good faith any counter-offer or proposal made by Parent during the five day period contemplated by clause (D) below) that the failure to effect a Company Change in Recommendation in light of such Superior Proposal is inconsistent with its fiduciary obligations to the stockholders of the Company under applicable Legal Requirements, (C) at least five days before such Company Change in Recommendation, the Company shall have provided to Parent a written notice (a *Notice of Recommendation Change*) of its intention to make such Company Change in Recommendation (which notice shall not be deemed to be, in and of itself, a Company Change in Recommendation), specifying the material terms and conditions of such Superior Proposal, including a copy of such Superior Proposal and identifying the Person making such Superior Proposal, (D) during the five day period following Parent's receipt of a Notice of Recommendation Change, the Company shall have given Parent the opportunity to meet with the Company and its Representatives, and at Parent's request, shall have negotiated in good faith regarding the terms of possible revisions to the terms of this Agreement, and (E) Parent shall not, within five days following Parent's receipt of a Notice of Recommendation Change, have made an offer that the Company Board determines in good faith (after consultation with its outside legal counsel and financial advisor) to be at least as favorable to the stockholders of the Company as such Superior Proposal; or (ii) other than in connection with a Superior Proposal (it being understood and hereby agreed that the Company Board shall not effect a Company Change in Recommendation in connection with a Superior Proposal other than pursuant to the immediately preceding clause (i) of this *Section 5.04(c)*), (A) the Company Board determines in good faith (after consultation with its outside legal counsel) that the failure to effect a Company Change in Recommendation is inconsistent with its fiduciary obligations to the stockholders of the Company under applicable Legal Requirements, (B) at least five days before such Company Change in Recommendation, the Company shall have provided to Parent a Notice of Recommendation Change of its intention to make such Company Change in Recommendation (which notice shall not be deemed to be, in and of itself a Company Change in Recommendation), specifying in reasonable detail the circumstances for such proposed Company Change in Recommendation, and (C) during the five day period following Parent's receipt of a Notice of Recommendation Change, the Company shall have given Parent the opportunity to meet with the Company and its Representatives, and at Parent's request, shall have negotiated in good faith regarding the terms of possible revisions to the terms of this Agreement.

(d) Nothing in this Agreement shall prohibit the Company Board from (i) taking and disclosing to the stockholders of the Company a position contemplated by Rule 14e-2(a) promulgated under the Exchange Act or complying with the provisions of Rule 14d-9 promulgated under the Exchange Act or (ii) making any disclosures to any stockholder of the Company that the Company Board determines in good faith (after consultation with its outside legal counsel) that the Company Board is required to make in order to comply with its fiduciary obligations to the stockholders of the Company under applicable Legal Requirements or with any other

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applicable Legal Requirements. In addition, it is understood and agreed that, for purposes of this *Section 5.04*, a factually accurate public statement by the Company that describes the Company's receipt of an Acquisition Proposal and the operation of this Agreement with respect thereto and contains a stop-look-and-listen communication shall not be deemed a Company Change in Recommendation.

(e) Notwithstanding anything to the contrary contained in this Agreement, (i) the obligation of the Company to call, give notice of, convene and hold the Special Meeting shall not be limited or otherwise affected by the commencement, disclosure, announcement or submission to it of any Acquisition Proposal or by any Company Change in Recommendation unless the Agreement has been terminated in accordance with *Section 7.01*, and (ii) the Company shall not submit to the vote of its stockholders any Acquisition Proposal, unless and until this Agreement is terminated in accordance with its terms.

(f) The Company shall not take any action to exempt any Person (other than Parent, Merger Sub and their respective Affiliates) from the restrictions on business combinations contained in Section 203 of the DGCL (or any similar provisions of any other Legal Requirement) or otherwise cause such restrictions not to apply unless such actions are taken simultaneously with a termination of this Agreement pursuant to *Section 7.01(f)*.

Section 5.05 Registration Statement; Proxy Statement; Special Meeting.

(a) As promptly as practicable after the execution of this Agreement, the Company shall prepare and file with the SEC a proxy statement relating to the Special Meeting (together with any amendments thereof or supplements thereto, the *Proxy Statement*), and Parent shall prepare and file with the SEC a registration statement on Form S-4 (together with all amendments thereto, the *Registration Statement*) in which the Proxy Statement shall be included as a prospectus, in connection with the registration under the Securities Act of the CVRs to be issued to the stockholders of the Company pursuant to the Merger. Each of Parent and the Company will use all reasonable efforts to respond to any comments made by the SEC with respect to the Proxy Statement, and to cause the Registration Statement to become effective as promptly as practicable. Before the effective date of the Registration Statement, Parent shall take all or any action required under any applicable federal or state securities laws in connection with the issuance of CVRs in the Merger. Each of Parent and the Company shall furnish all information concerning it and the holders of its capital stock as the other may reasonably request in connection with such actions and the preparation of the Registration Statement and the Proxy Statement. As promptly as practicable after the Registration Statement shall have become effective, the Company shall mail the Proxy Statement to its stockholders. The Proxy Statement shall (subject to *Section 5.04(c)*) include the Company Recommendation.

(b) Subject to *Section 5.04(c)*, no amendment or supplement to the Proxy Statement or the Registration Statement will be made by Parent or the Company without the approval of the other party (which approval shall not be unreasonably withheld, delayed or conditioned). Parent and the Company each will advise the other, promptly after it receives notice thereof, of the time when the Registration Statement has become effective or any supplement or amendment has been filed, of the issuance of any stop order, the suspension of the qualification of the CVRs issuable in connection with the Merger for offering or sale in any jurisdiction, or any request by the SEC for amendment of the Proxy Statement or the Registration Statement or comments thereon and responses thereto or requests by the SEC for additional information.

(c) If at any time before the Effective Time, any event or circumstance relating to Parent or any Parent Subsidiary, or their respective officers or directors, should be discovered by Parent which should be set forth in an amendment or a supplement to the Registration Statement or the Proxy Statement, Parent shall promptly inform the Company. All documents that Parent is responsible for filing with the SEC in connection with the transactions contemplated herein will comply as to form and substance in all material respects with the applicable requirements of the Securities Act and the rules and regulations thereunder, the Exchange Act and the rules and regulations thereunder, and other applicable Legal Requirements (*provided*, that Parent shall not be responsible hereunder for the substance of statements or omissions included in the Registration Statement or Proxy Statement based upon information furnished in writing to Parent by the Company specifically for use therein).

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(d) If at any time before the Effective Time, any event or circumstance relating to the Company or any Company Subsidiary, or their respective officers or directors, should be discovered by the Company which should be set forth in an amendment or a supplement to the Registration Statement or the Proxy Statement, the Company shall promptly inform Parent. All documents that the Company is responsible for filing with the SEC in connection with the transactions contemplated herein will comply as to form and substance in all material respects with the applicable requirements of the Securities Act and the rules and regulations thereunder, the Exchange Act and the rules and regulations thereunder, and other applicable Legal Requirements (*provided*, that the Company shall not be responsible hereunder for the substance of statements or omissions included in the Proxy Statement based upon information furnished in writing to the Company by Parent or Merger Sub specifically for use therein).

(e) The Company, acting through the Company Board, shall (i) duly set a record date for, call and establish a date for, and give notice of, the Special Meeting (with the record date and meeting date each set for a date as soon as reasonably practicable and in consultation with Parent), and (ii) convene and hold the Special Meeting as soon as reasonably practicable after the date on which the Registration Statement becomes effective. The Special Meeting shall be scheduled to be held approximately 30 days after the mailing of the Proxy Statement. Notwithstanding anything to the contrary contained in this Agreement, the Company may adjourn or postpone the Special Meeting (x) to the extent necessary to ensure that any necessary supplement or amendment to the Proxy Statement is provided to all stockholders of the Company in advance of the vote to be taken at the Special Meeting, or (y) if as of any time the Special Meeting is scheduled (as set forth in the Proxy Statement) there are insufficient Company Shares represented (either in person or by proxy) to constitute a quorum necessary to conduct the business for which the Special Meeting was called. Parent shall cause all shares of Company Shares owned by Parent, Merger Sub or their Affiliates, if any, to be voted in favor of adoption of this Agreement and approval of the Transactions.

Section 5.06 Filings; Other Action.

(a) Each of the Company, Parent and Merger Sub shall: (i) promptly make and effect all registrations, filings and submissions required to be made or effected by it pursuant to the Exchange Act and other applicable Legal Requirements with respect to the Transactions; and (ii) use its reasonable best efforts to cause to be taken, on a timely basis, all other actions necessary or appropriate for the purpose of consummating and effectuating the transactions contemplated by this Agreement. Without limiting the generality of the foregoing, each of the Company, Parent and Merger Sub shall promptly provide all information requested by any Governmental Entity in connection with the Transactions.

(b) Without limiting the generality of anything contained in *Section 5.06(a)* or *Section 5.06(c)*, each party hereto shall (to the extent permitted by applicable Legal Requirements): (i) give the other parties prompt notice of the making or commencement of any request, inquiry, investigation, action or Legal Proceeding by or before any Governmental Entity with respect to the Transactions; (ii) keep the other parties informed as to the status of any such request, inquiry, investigation, action or Legal Proceeding; and (iii) promptly inform the other parties of any communication to or from any Governmental Entity regarding the Transactions. Each party hereto will consult and cooperate with the other parties and will consider in good faith the views of the other parties in connection with any analysis, appearance, presentation, memorandum, brief, argument, opinion or proposal made or submitted in connection with any such request, inquiry, investigation, action or Legal Proceeding. In addition, except as may be prohibited by any Governmental Entity or by any Legal Requirement, in connection with any such request, inquiry, investigation, action or Legal Proceeding, each party hereto will permit authorized representatives of the other parties to be present at each meeting or conference relating to such request, inquiry, investigation, action or Legal Proceeding and to have access to and be consulted in connection with any document, opinion or proposal made or submitted to any Governmental Entity in connection with such request, inquiry, investigation, action or Legal Proceeding.

(c) In furtherance and not in limitation of the covenants of the parties contained in this *Section 5.06*, each of the parties hereto shall use its reasonable best efforts to resolve such objections, if any, as may be asserted by a

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Governmental Entity or other Person with respect to the Transactions. Without limiting any other provision hereof, Parent and the Company shall each use its reasonable best efforts to (i) avoid the entry of, or to have vacated or terminated, any decree, order or judgment that would restrain, prevent or delay the consummation of the Transactions on or before the Outside Date, including by defending through litigation on the merits any claim asserted in any court by any Person, and (ii) avoid or eliminate each and every impediment under any Antitrust Law that may be asserted by any Governmental Entity with respect to the Transactions so as to enable the consummation of the Transactions to occur as soon as reasonably possible (and in any event no later than the Outside Date); except that Parent need do no such thing that would prevent it from achieving in substantial measure all of the benefits it intended to achieve via the Transactions.

(d) For avoidance of doubt, the parties recognize that Parent shall, upon issuance thereof, register the CVRs under the Exchange Act, but Parent shall have no obligation under this Agreement or any of the CVR Agreements to ever list or include the CVRs, or any of them, on the Exchange or on any other securities exchange or quotation system.

Section 5.07 Access.

Upon reasonable advance written notice, the Company shall, and shall cause its Subsidiaries to, afford Parent and its Representatives reasonable access, during normal business hours throughout the period before the Effective Time, to its books and records and, during such period, shall, and shall cause its Subsidiaries to, furnish promptly to Parent all readily available information concerning its business as Parent may reasonably request (and the Company shall also, upon such request, provide such access to its facilities, personnel and contract parties); *provided, however*, that neither the Company nor any of its Subsidiaries shall be required to permit any inspection or other access, or to disclose any information, that in its reasonable judgment would: (a) constitute, or result in any, disclosure (whether or not to a third party) of any of its Trade Secrets in such a way as would destroy their trade-secret status; (b) result in the disclosure of any Trade Secrets of third parties; (c) violate any of its obligations to third persons with respect to confidentiality; (d) jeopardize protections afforded it under the attorney-client privilege or the attorney work product doctrine; (e) violate any Legal Requirement; or (f) materially interfere with the conduct of its business. All information obtained by Parent or its Representatives pursuant to this *Section 5.07* shall be treated as Proprietary Information for purposes of the Confidentiality Agreement and Evaluation Information for purposes of the Confidentiality and Exclusivity Agreement.

Section 5.08 Publicity.

The initial press release relating to this Agreement shall be a joint press release issued by the Company and Parent, and thereafter the parties hereto shall consult with each other and give due consideration to any reasonable additions, deletions or changes suggested by the other party and its counsel before issuing any press releases or otherwise making public statements with respect to the Transactions and before making any filings with any Governmental Entity with respect to the Transactions to the extent permitted by applicable Legal Requirements; *provided, however*, that the Company need not consult with Parent in connection with any press release or public statement to be issued or made with respect to any Acquisition Proposal or with respect to any Company Change in Recommendation.

Section 5.09 Employee Benefits.

(a) *Employment; Severance.*

(i) If and to the extent so requested by Parent in writing before the Determination Date (and with such exceptions as Parent may designate), the Company shall as of immediately before the Effective Time terminate (and/or provide written notice of termination in accordance with any employment or consulting agreement requiring advance notice of termination of) the service relationship with the Company and the Company Subsidiaries of all employees, consultants and directors of the Company and the Company Subsidiaries and take all customary ancillary actions in connection with such termination (including giving them written notice of such termination).

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(ii) Any such termination of employment shall be treated as a termination without cause or benefits eligible termination (or equivalent term) by the Company entitling such employees to full severance payments and benefits under the employment agreements listed on Section 5.09 of the Company Disclosure Letter, determined on the basis that such termination has occurred in connection with a change in control, as applicable to individual employees. Section 5.09 of the Company Disclosure Letter sets forth the amounts of the cash severance payments applicable as of the Effective Time to each employee covered by an employment agreement with the Company. Before the Effective Time, the Company Board may in its sole discretion deliver letters to individual employees setting forth their severance payments and benefits upon termination of employment, on a basis consistent with this *Section 5.09*. Notwithstanding anything contained herein to the contrary, in no event shall any officer's voluntary resignation (as contemplated by this Agreement) affect such Person's eligibility to receive the severance payments set forth on Section 5.09 of the Company Disclosure Letter or otherwise alter the classification of the termination of employment as contemplated under this *Section 5.09*.

(iii) From and after the Effective Time, Parent shall, or shall cause a Parent Subsidiary, the Surviving Corporation or a Subsidiary of the Surviving Corporation, to honor the terms of the employment agreements listed on Section 5.09 of the Company Disclosure Letter, including, without limitation, the payment of continuing severance payments for the period set forth in such employment agreements. The severance amounts payable under such employment agreements to any Company employee who continues in the employ of the Surviving Corporation shall be paid to such employee by the Surviving Corporation or Parent on the first Business Day after such employee's employment with the Surviving Corporation/Parent terminates or as otherwise required or provided for by the Contracts governing the severance payments.

(b) *401(k) Plan*.

(i) If so requested by Parent in writing, the Company shall before the Effective Time amend the Company's 401(k) plan to require, in the event of plan termination, in-kind distribution of any CVRs in a participant's account, and take all customary ancillary actions in connection with such amendment.

(ii) If so requested by Parent in writing, and whether or not such amendment shall have been requested, the Company shall as of immediately before the Effective Time terminate the Company's 401(k) plan and take all customary ancillary actions in connection with such termination.

(c) *Health Care*. From and after the Effective Time, Parent shall, or shall cause a Parent Subsidiary, the Surviving Corporation or a Subsidiary of the Surviving Corporation, to (i) at a minimum, honor in accordance with their terms the obligations of the Company to provide continued medical and dental coverage to employees and their eligible family members under the terms of the employment agreements listed on Section 5.09 of the Company Disclosure Letter, with the understanding that the Company's health plans will be terminated and coverage will instead be provided through Parent's health plans, and (ii) as and to the extent required by applicable Legal Requirements, continue to provide COBRA continuation coverage to former employees of the Company, with the understanding that the Company's health plans will be terminated and coverage will instead be provided through Parent's health plans.

(d) This *Section 5.9* shall survive the Effective Time and the consummation of the Merger. This *Section 5.9* is intended to benefit, and may be enforced by, the employees or former employees entitled to the rights set forth hereunder and their respective heirs, representatives, successors and assigns, and shall be binding on all successors and assigns of Parent and the Surviving Corporation.

Section 5.10 Indemnification; Directors and Officers Insurance.

(a) From and after the Effective Time, Parent will cause the Surviving Corporation and its Subsidiaries to fulfill and honor in all respects the obligations of the Company and the Company Subsidiaries pursuant to (i) each indemnification agreement in effect on the date of this Agreement between the Company or any of the Company Subsidiaries and any Indemnified Party; (ii) any indemnification provision and any exculpation

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provision in favor of an Indemnified Party that is set forth in the certificate of incorporation or bylaws of the Company and the equivalent organizational documents of any Company Subsidiary in effect as of the date of this Agreement and (iii) any other rights to indemnification now existing in favor of any Indemnified Party under any statute or any express written Contract. The certificate of incorporation and bylaws of the Surviving Corporation shall contain the provisions with respect to indemnification and exculpation from liability set forth in the Company's certificate of incorporation and bylaws on the date of this Agreement, and, from and after the Effective Time, such provisions shall not be amended, repealed or otherwise modified in any manner that could adversely affect the rights thereunder of any Indemnified Party.

(b) Without limiting the provisions of *Section 5.10(a)*, during the period commencing at the Effective Time and ending on the sixth anniversary of the Effective Time, Parent shall indemnify and hold harmless each Indemnified Leader against and from any costs, fees and expenses (including reasonable attorneys' fees and investigation expenses), judgments, fines, losses, claims, damages, liabilities and amounts paid in settlement in connection with any Legal Proceeding, arbitration, investigation or inquiry, whether civil, criminal, administrative or investigative, to the extent such Legal Proceeding, arbitration, investigation or inquiry arises directly or indirectly out of or pertains directly or indirectly to: (i) any action or omission or alleged action or omission in such Indemnified Leader's capacity as a director, officer, employee or agent of the Company or any Company Subsidiary or other Affiliates (regardless of whether such action or omission, or alleged action or omission, occurred before, at or after the Effective Time); or (ii) any of the transactions contemplated by this Agreement; *provided, however*, that if, at any time before the sixth anniversary of the Effective Time, any Indemnified Leader delivers to the Company, the Surviving Corporation or Parent, as applicable, a written notice asserting a claim for indemnification under this *Section 5.10(b)*, then the claim asserted in such notice shall survive the sixth anniversary of the Effective Time until such time as such claim is fully and finally resolved. In the event of any such Legal Proceeding, arbitration, investigation or inquiry: (A) any counsel retained by the Indemnified Leaders with respect to the defense thereof for any period after the Effective Time must be reasonably satisfactory to Parent; and (B) Parent will pay the reasonable fees and expenses of such counsel, promptly after statements therefor are received; *provided* that the individual to whom expenses are advanced provides an undertaking to repay such advances to the extent required by applicable Legal Requirements. The Indemnified Leaders as a group may retain only one law firm (in addition to local counsel) to represent them with respect to any single action unless counsel for any Indemnified Leader determines in good faith that, under applicable standards of professional conduct, a conflict exists or is reasonably likely to arise on any material issue between the positions of any two or more Indemnified Leaders. Notwithstanding anything to the contrary contained in this *Section 5.10(b)* or elsewhere in this Agreement, Parent agrees that it will not settle or compromise or consent to the entry of any judgment or otherwise seek termination with respect to any Legal Proceeding, arbitration, investigation or inquiry for which indemnification may be sought under this Agreement unless such settlement, compromise, consent or termination includes an unconditional release of all Indemnified Leaders from all liability arising out of such Legal Proceeding, arbitration, investigation or inquiry.

(c) Through the sixth anniversary of the Effective Time, Parent will cause the Surviving Corporation to maintain in effect, for the benefit of the Company's directors and officers that are insured under the Company's current directors' and officers' liability insurance policy in effect as of the date of this Agreement (the *D&O Insurance Policy*), the current level and similar scope of directors' and officers' liability insurance coverage as set forth in the *D&O Insurance Policy* with a carrier selected by Parent; *provided, however*, that in no event shall the Surviving Corporation be required pursuant to this *Section 5.10(c)* to expend in any one year an amount in excess of \$60,000, it being understood that if the annual premiums payable for such insurance coverage exceed such amount, the Surviving Corporation shall be obligated to obtain a policy with what Parent determines in good faith to be the most favorable coverage available for a cost equal to such amount. At any time before the Effective Time, notwithstanding anything to the contrary set forth in this Agreement, the Company may purchase a customary tail prepaid policy on the *D&O Insurance Policy* covering a period of six years from the Effective Time for a total premium of no more than \$360,000. In the event that the Company shall purchase such a customary tail prepaid policy before the Effective Time, Parent will cause the Surviving Corporation to maintain such tail policy in full force and effect and continue to honor its respective obligations thereunder, in

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lieu of all other obligations of Parent under the first sentence of this *Section 5.10(c)*, for so long as such tail policy shall be maintained in full force and effect.

(d) Parent and the Surviving Corporation jointly and severally agree to pay all expenses, including attorneys' fees, that may be incurred by the Indemnified Parties in successfully enforcing their indemnity rights and other rights provided in this *Section 5.10*.

(e) This *Section 5.10* shall survive the Effective Time and the consummation of the Merger. This *Section 5.10* is intended to benefit, and may be enforced by, the Indemnified Parties and their respective heirs, representatives, successors and assigns, and shall be binding on all successors and assigns of Parent and the Surviving Corporation.

Section 5.11 Section 16 Matters.

Before the Effective Time, Parent and the Company shall take all such steps as may be required to cause any dispositions of Company Shares (including derivative securities with respect to Company Shares) resulting from the Merger by each individual who is subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to the Company to be exempt under Rule 16b-3 promulgated under the Exchange Act, including, without limitation, actions in accordance with that certain No-Action Letter dated January 12, 1999 issued by the SEC regarding such matters.

Section 5.12 Plan of Reorganization.

The parties agree that the Merger shall not be, and they shall not report the Merger as, a tax-free reorganization within the meaning of Section 368 of the Code.

Section 5.13 Consultants.

(a) From and after the date hereof, Parent shall use commercially reasonable efforts to negotiate and agree to terms with as many of the individuals listed on *Exhibit E* attached hereto as possible (referred to herein as the *Consulting Committee*), to assist, in the role of consultants, and with such consulting to begin as of the Effective Time, in Parent's efforts toward selling or licensing the 7133 Program by the sixth-month anniversary of the Effective Time; *provided*, that Parent shall not be required to provide more than \$40,000 in the aggregate for the compensation of the Consulting Committee.

(b) It is understood that, from and after the Effective Time, Parent's Board of Directors and management shall have the ultimate authority to lead, direct and approve the sale/license process described in paragraph (a) of this *Section 5.13* and to determine (subject to the obligation to act in good faith and with commercial reasonableness) whether or not to seek, solicit, negotiate or accept any proposed offer to sell or license the 7133 Program or any other Program by any deadline (or ever or at all), and that Parent shall have no liability for decisions, actions and inactions in this regard that are taken in good faith and with commercial reasonableness; *provided*, that notwithstanding the foregoing, until the sixth-month anniversary of the Effective Time, Parent shall use commercially reasonable efforts to cause its management to implement any particular proposed sale or license of the 7133 Program recommended by the Consulting Committee on terms and conditions that do not create a commercially unreasonable risk of liability to Parent.

Section 5.14 Efforts to Satisfy Closing Conditions.

Each of Parent, Merger Sub and the Company shall use its reasonable best efforts to cause the conditions to the other party's obligations to effect the Merger and the other Transactions to be satisfied. Each party hereto, at the reasonable request of the other, shall execute and deliver such other instruments and do and perform such other acts and things as may be reasonably necessary and consistent with this Agreement to effect the consummation of the Merger and other Transactions contemplated by this Agreement.

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Section 5.15 Guaranteed Funding.

(a) Before the first anniversary of the Effective Time, Parent shall (i) initiate research, development or commercialization efforts on the Glucagon Program and the TR Beta Program and (ii) incur at least \$350,000 in Funding for at least one of the General Programs.

(b) If Parent does not incur at least \$350,000 in Funding for at least one of the General Programs during the first 12 months following the Effective Time, Parent shall deliver the General Program Funding Shortfall Amount (as defined in the General CVR Agreement) to the Rights Agent pursuant to and for distribution in accordance with the terms of the General CVR Agreement, unless the Stockholders Representative, in its sole discretion, shall have informed Parent in writing that this *Section 5.15(b)* is negated. Parent shall receive full credit for the amount so delivered against any future First Funding Shortfall Amount, Funding Shortfall Amount or Extended Funding Shortfall Amount (each as defined in the General CVR Agreement).

(c) If Parent does not incur an aggregate of at least \$7,000,000 in Funding during the first 30 months following the Effective Time, then Parent shall deliver the First Funding Shortfall Amount to the Rights Agent pursuant to and for distribution in accordance with the terms of the General CVR Agreement, unless any of the following has occurred, in which case this *Section 5.15(c)* shall be negated: (i) the Stockholders Representative, in its sole discretion, shall have informed Parent in writing that this *Section 5.15(c)* is negated, (ii) Parent shall provide the Stockholders Representative with reasonable written evidence that Parent entered into a partnering agreement or similar arrangement with another Person to commercialize one of the Company Programs and such agreement has a Partner Value of at least \$100,000,000 payable to Parent, or (iii) Parent shall provide the Stockholders Representative with reasonable written evidence that all Funding has ceased on both the TR Beta Program and the Glucagon Program and no future Funding on such programs is contemplated by, or budgeted for, Parent or the Surviving Corporation. Parent shall receive full credit for the amount so delivered against any future Funding Shortfall Amount or Extended Funding Shortfall Amount.

(d) If Parent does not incur an aggregate of at least \$8,000,000 in Funding during the first 42 months following the Effective Time, then Parent shall deliver the Funding Shortfall Amount to the Rights Agent pursuant to and for distribution in accordance with the terms of the General CVR Agreement, unless the Stockholders Representative, in its sole discretion, shall instruct Parent in writing to extend such 42-month period so that it is a 48-month compliance period (the *Funding Extension*). In the event of a Funding Extension, Parent shall deliver the Extended Funding Shortfall Amount, if any, to the Rights Agent pursuant to and for distribution in accordance with the terms of the General CVR Agreement.

(e) All Funding by Parent shall be done in good faith and with commercial reasonableness; *provided*, that upon Parent incurring an aggregate of \$8,000,000 in Funding, no additional Funding shall be subject to such standard.

(f) Following the Effective Time, on an annual basis, Parent or the Surviving Corporation shall provide the Stockholders Representative with a summary report setting forth (i) an accurate accounting and summary of all Funding incurred by Parent during the preceding 12 month period (including sufficient back-up to allow the Stockholders Representative to understand the general nature and purpose of such Funding payments) and (ii) describing in general the status of the respective Company Programs (each such report, a *Summary Report*). Subject to *Section 5.16(a)*, if the Stockholders Representative disagrees with any of the calculations set forth in a Summary Report and/or whether any payment qualifies as a Funding payment, within 45 calendar days after delivery of such Summary Report to the Stockholders Representative, the Stockholders Representative shall deliver a written notice to Parent specifying, with sufficient detail, any objections the Stockholders Representative has to such Summary Report (*Funding Objection Notice*). If the Stockholders Representative fails to deliver a Funding Objection Notice within such 45 calendar day period, such Summary Report shall be deemed conclusive determination of the Funding incurred during the relevant 12-month period. If the Stockholders Representative delivers a Funding Objection Notice, Parent and the Stockholders Representative

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shall resolve such dispute pursuant to the resolution procedures set forth in Section 7.12 of the General CVR Agreement.

(g) This *Section 5.15* shall survive the Effective Time and the consummation of the Merger. In addition, Parent's obligation to provide a Summary Report hereunder shall survive the satisfaction of the Funding obligations and shall continue until such time as each of the CVR Agreements terminate pursuant to their respective terms; *provided, however*, upon satisfaction of the Funding obligations hereunder (or, if later, upon the conclusion of the 42-month or, if there has been a Funding Extension, 48-month measuring period), each Summary Report shall only be required to describe in general the status of the respective Company Programs.

Section 5.16 Stockholders Representative.

(a) *Appointment of Stockholders Representative.* For purposes of (i) negotiating and settling, on behalf of the Company stockholders, any dispute that arises under this Agreement after the Effective Time, (ii) accepting delivery of notices hereunder to the former Company stockholders after the Effective Time, (iii) reviewing, negotiating and settling matters with respect to the Funding obligations set forth in *Section 5.15*, (iv) confirming the satisfaction of Parent's obligations under the CVR Agreements, including, without limitation, receiving and reviewing the achievement certificates and/or reports to be provided to the Stockholders Representative thereunder and (v) negotiating and settling matters with respect to the amounts to be paid to the holders of CVRs pursuant to the CVR Agreements, the Stockholders Representative is hereby appointed, authorized and empowered to be the exclusive representative, agent and attorney-in-fact of the Company stockholders and holders of CVRs, with full power of substitution, to make all decisions and determinations and to act (or not act) and execute, deliver and receive all agreements, documents, instruments and consents on behalf of and as agent for such Company stockholders or holders of CVRs at any time in connection with, and that may be necessary or appropriate to accomplish the intent and implement the provisions of this Agreement and the CVR Agreements, and to facilitate the consummation of the transactions contemplated hereby and thereby; *provided*, that before the delivering of any Funding Objection Notice or Notice of Objection (as defined in the CVR Agreements) or the filing of any other litigation or arbitration action or dispute process of any kind or the negating of *Section 5.15(c)* of this Agreement pursuant to *Section 5.15(c)(i)* or the negating of *Section 5.15(b)* of this Agreement or the granting of a Funding Extension or the amending of any CVR Agreement by the Stockholders Representative, the Stockholders Representative shall first obtain the written assent of at least 20% of the then outstanding General CVRs, in the case of a Funding Objection Notice or a filing of any other litigation or arbitration action or dispute process of any kind which does not arise under a particular CVR Agreement or a negating pursuant to *Section 5.15(c)(i)* or a negating of *Section 5.15(b)* or a granting of a Funding Extension, or of at least 20% of the CVRs then outstanding under the applicable CVR Agreement under which such Notice of Objection is to be delivered, in the case of a Notice of Objection or a filing of any other litigation or arbitration action or dispute process of any kind arising under the applicable CVR Agreement or an amending of the applicable CVR Agreement. By executing this Agreement, the Stockholders Representative accepts such appointment, authority and power. Without limiting the generality of the foregoing, the Stockholders Representative shall have the power to take any of the following actions on behalf of the former Company stockholders: to give and receive notices, communications and consents under this Agreement and the CVR Agreements on behalf of the former Company stockholders and holders of CVRs; to negotiate, enter into settlements and compromises of, resolve and comply with orders of courts and other third-party intermediaries with respect to any disputes arising under this Agreement or the CVR Agreements; and to make, execute, acknowledge and deliver all such other agreements, guarantees, orders, receipts, endorsements, notices, requests, instructions, certificates, stock powers, letters and other writings, and, in general, to do any and all things and to take any and all action that the Stockholders Representative, in its sole and absolute discretion, may consider necessary or proper or convenient in connection with or to carry out the activities described in this *Section 5.16*.

(b) *Authority.* The appointment of the Stockholders Representative by each stockholder and holder of CVRs by the Company stockholders collective adoption of this Agreement is coupled with an interest and may not be revoked in whole or in part (including, without limitation, upon the death or incapacity of any

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stockholder). Such appointment shall be binding upon the heirs, executors, administrators, estates, personal representatives, officers, directors, security holders, successors and assigns of each stockholder. All decisions of the Stockholders Representative shall be final and binding on all of the stockholders and holders of CVRs, and no stockholder or holder of CVRs, shall have the right to object, dissent, protest or otherwise contest the same. Parent shall be entitled to rely upon, without independent investigation, any act, notice, instruction or communication from the Stockholders Representative and any document executed by the Stockholders Representative on behalf of any stockholder or holder of CVRs and shall be fully protected in connection with any action or inaction taken or omitted to be taken in reliance thereon by Parent absent willful misconduct by Parent. The Stockholders Representative shall not be responsible for any loss suffered by, or liability of any kind to, the stockholders or holders of CVRs arising out of any act done or omitted by the Stockholders Representative in connection with the acceptance or administration of the Stockholders Representative's duties hereunder, unless such act or omission involves gross negligence or willful misconduct.

(c) *Successor Stockholders Representative.* In the event that the Stockholders Representative dies, becomes unable to perform his or her responsibilities hereunder or resigns from such position, the holders of at least 34% of the then outstanding General CVRs shall be authorized to and shall select another representative reasonably acceptable to Parent to fill such vacancy and such substituted representative shall be deemed to be the Stockholders Representative for all purposes of this Agreement and the CVR Agreements. The newly-appointed Stockholders Representative shall notify Parent, the Surviving Corporation and any other appropriate Person in writing of his or her appointment, provide evidence that the holders of the requisite percentage of the then outstanding General CVRs approved such appointment and provide appropriate contact information for purposes of this Agreement and the CVR Agreements. Parent shall be entitled to rely upon, without independent investigation, the identity and validity of such newly-appointed Stockholders Representative as set forth in such written notice.

In the event that within 30 days after the Stockholders Representative dies, becomes unable to perform his or her responsibilities hereunder or resigns from such position and no successor Stockholders Representative reasonably acceptable to Parent has been so selected, the Rights Agent shall forthwith notify the Person holding the largest quantity of the outstanding General CVRs (and who is not a Competitor of Parent), and Parent and the Surviving Corporation, that such Person is the successor Stockholders Representative, and such Person shall be the successor Stockholders Representative hereunder. If such Person notifies the Rights Agent, Parent and the Surviving Corporation in writing that such Person declines to serve, the Rights Agent shall forthwith notify the Person holding the next-largest quantity of the outstanding General CVRs (and who is not a Competitor of Parent), and Parent and the Surviving Corporation, that such next-largest-quantity Person is the successor Stockholders Representative, and such next-largest-quantity Person shall be the successor Stockholders Representative hereunder. (And so on, to the extent as may be necessary.)

(d) *Access and Confidentiality.* Subject to prior execution and delivery (to Parent and the Surviving Corporation) by the Stockholders Representative of a reasonable and customary confidentiality/nonuse agreement, from and after the Effective Time, Parent and the Surviving Corporation shall use commercially reasonable efforts to provide the Stockholders Representative with reasonable access to information about Parent and the Surviving Corporation (and their respective Subsidiaries) and the reasonable assistance of the officers and employees of the Surviving Corporation (and their respective Affiliates) upon reasonable prior notice and during normal business hours, for purposes of performing the duties of the Stockholders Representative under this Section 5.16. Subject to prior execution and delivery (to Parent and the Surviving Corporation) by the applicable holders of CVRs of a reasonable and customary confidentiality/nonuse agreement, the Stockholders Representative may forward any information and documentation it receives to such particular holders of CVRs for the direct purpose of seeking to obtain the assent of the requisite holders of CVRs before the delivery of a Notice of Objection or a Funding Objection Notice or the filing of any other litigation or arbitration action or dispute process of any kind. Notwithstanding the foregoing, the Stockholders Representative covenants and agrees that in no event shall the Stockholders Representative provide any such information or documentation to any Holder who (i) is a Competitor of Parent or (ii) holds fewer than 1% of the total number of

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General CVRs. For purposes of this *Section 5.16*, a *Competitor of Parent* shall mean a pharmaceutical or biotechnology company engaged primarily in the research, development or commercialization of any product that is directly competitive (with respect to the indication treated by such product) with any Company Program and expressly excluding any Person that is an institutional investor.

(e) *Compensation, Fees and Expenses of Stockholders Representative.*

(i) In consideration of the Stockholders Representative's obligations hereunder, the Stockholders Representative shall be paid, from the Stockholders Representative Fund, annual compensation in the amount of \$45,000.

(ii) The actual and reasonable fees and expenses of the Stockholders Representative in performing its obligations hereunder shall be paid from the Stockholders Representative Fund in the sole discretion of the Stockholders Representative. The Stockholders Representative shall keep, for a period of at least five years following distribution, reasonable records and an accounting of all distributions made from the Stockholders Representative Fund. Upon the Closing, Parent shall wire \$150,000 to the account set up for the Stockholders Representative Fund pursuant to wire instructions to be provided at least two Business Days before the Closing Date. Pursuant to the terms of the CVR Agreements, before the payment of any cash consideration to the holders of CVRs, up to 1% of the aggregate amount of cash consideration payable to the holders of CVRs shall be contributed to the Stockholders Representative Fund; *provided*, that no such additional cash consideration shall be contributed to the Stockholders Representative Fund if the available amount in the Stockholders Representative Fund would, together with the contribution, exceed \$300,000 at the time of such payment to the holders of the CVRs. Except as expressly set forth herein, Parent and the Surviving Corporation shall have no obligation to finance or reimburse the Stockholders Representative, the Stockholders Representative Fund, or the Stockholders Representative's activities.

(f) *Termination of Duties and Obligations.* Subject to the following sentence, the Stockholders Representative's duties and obligations under this *Section 5.16* shall survive the Effective Time indefinitely. Upon the occurrence of the Fund Distribution Date, the Stockholders Representative shall be relieved of any and all duties and obligations under this Agreement or any of the CVR Agreements except under the second sentence of *Section 5.16(e)(ii)*.

ARTICLE VI

CONDITIONS TO EACH PARTY'S OBLIGATION TO EFFECT THE MERGER

Section 6.01 Conditions to Obligations of Each Party Under This Agreement.

The respective obligations of each party to effect the Merger and the other Transactions shall be subject to the satisfaction at or before the Effective Time of the following conditions, any or all of which may be waived, in whole or in part, to the extent permitted by applicable Legal Requirements:

(a) The Registration Statement shall have been declared effective by the SEC under the Securities Act. No stop order suspending the effectiveness of the Registration Statement shall have been issued by the SEC and no proceedings for that purpose shall have been initiated or, to the Knowledge of Parent or the Company, threatened by the SEC.

(b) The Company Stockholder Approval shall have been obtained.

(c) No temporary, preliminary or permanent order or injunction shall have been issued by a court of competent jurisdiction and shall be continuing that prohibits the consummation of the Merger, and no Legal Prohibition shall have been enacted since the date of this Agreement and shall remain in effect.

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Section 6.02 Additional Conditions to Obligations of Parent and Merger Sub.

The obligations of Parent and Merger Sub to effect the Merger and the other transactions contemplated herein are also subject to the following conditions:

(a) Each of the representations and warranties of the Company set forth in the Agreement (without giving effect to any Company Material Adverse Effect or other materiality qualifications contained in such representations and warranties) shall be true and correct as of the Effective Time as though made on and as of the Effective Time (except that those representations and warranties which address matters only as of a particular date need only be true and correct as of such date), except for such inaccuracies, individually or in the aggregate, that would not reasonably be expected to have a Company Material Adverse Effect, and Parent shall have received a certificate of an executive officer of the Company to that effect.

(b) The covenants of the Company contained in the Agreement that are required to have been performed by the Company before the Effective Time shall have been performed in all material respects, and Parent shall have received a certificate of an executive officer of the Company to that effect and to the effect that *Section 6.02(c)*, *Section 6.02(d)*, *Section 6.02(e)* and *Section 6.02(f)* have been satisfied.

(c) Since the date of this Agreement, there shall not have occurred and be continuing any event or development which, individually or in the aggregate, has had or would reasonably be expected to have a Company Material Adverse Effect.

(d) No more than 1,750,000 Outstanding Company Shares shall be eligible to be Dissenting Shares.

(e) The Company shall have delivered to Parent the resignations of each director and officer of the Company and each Company Subsidiary, as such, each effective as of the Effective Time.

(f) The Company shall have obtained consents or approvals from all parties in the absence of whose consent or approval the consummation of the Merger and the Transactions would violate or constitute a default under any Company Contract, except for such violations or defaults as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, impair in any material respect the ability of the Company to perform its obligations hereunder or the ability of Parent to enjoy the intended benefit of the Transactions, or prevent or materially delay consummation of the Transactions; and the Company shall have obtained, made or received all consents or approvals of, or filings, declarations or registrations with, any Governmental Entity necessary for the execution and delivery of this Agreement and the CVR Agreements by the Company and the consummation by the Company of the Transactions, other than (i) the filing with the SEC of the post-Effective-Time filings required under, and compliance with other applicable requirements of, the Exchange Act and the rules of the NASDAQ Capital Market, (ii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, and (iii) such consents, approvals, filings, declarations or registrations that, if not obtained, made or given, would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, impair in any material respect the ability of the Company to perform its obligations hereunder or the ability of Parent to enjoy the intended benefit of the Transactions, or prevent or materially delay consummation of the Transactions.

(g) Parent shall have received from the Company (i) a properly executed statement, dated as of the Effective Time, stating under penalties of perjury that the Company is not, and has not been, a United States real property holding corporation as defined in Section 897(c)(2) of the Code during the applicable period described in Section 897(c)(1)(A)(ii) of the Code, in form and substance reasonably acceptable to Parent, and (ii) proof reasonably satisfactory to Parent that the Company has provided notice of such verification to the Internal Revenue Service in accordance with the provisions of Treasury Regulations Section 1.897-2(h)(2).

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Section 6.03 Additional Conditions to Obligations of the Company.

The obligation of the Company to effect the Merger and the other transactions contemplated herein are also subject to the following conditions:

(a) Each of the representations and warranties of Parent and Merger Sub set forth in the Agreement (without giving effect to any Parent Material Adverse Effect or other materiality qualifications contained in such representations and warranties) shall be true and correct as of the Effective Time as though made on and as of the Effective Time (except that those representations and warranties which address matters only as of a particular date need only be true and correct as of such date), except for such inaccuracies, individually or in the aggregate, that would not reasonably be expected to have a Parent Material Adverse Effect, and the Company shall have received a certificate of an executive officer of Parent to that effect.

(b) The covenants of Parent and Merger Sub contained in the Agreement that are required to have been performed by Parent and Merger Sub before the Effective Time shall have been performed in all material respects, and the Company shall have received a certificate of an executive officer of Parent to that effect and to the effect that *Section 6.03(c)* has been satisfied.

(c) Since the date of this Agreement, there shall not have occurred and be continuing any event or development which, individually or in the aggregate, has had or would reasonably be expected to have a Parent Material Adverse Effect.

Section 6.04 Estoppel.

Notwithstanding anything to the contrary contained herein, no party whose failure to take any action required to fulfill or satisfy any of the conditions set forth in this *Article VI* may claim failure of such condition as grounds for termination pursuant to *Article VII* of this Agreement.

ARTICLE VII

TERMINATION

Section 7.01 Termination.

This Agreement may be terminated and the Merger may be abandoned (before or after the obtaining of the Company Stockholder Approval):

(a) by mutual written consent of the Company and Parent at any time before the Effective Time;

(b) by either Parent or the Company if the Company Stockholder Approval shall not have been obtained by reason of the failure to obtain the required vote at the Special Meeting or at any adjournment thereof;

(c) by Parent or the Company at any time after February 15, 2010 (the *Outside Date*) if the Effective Time shall not have occurred on or before the Outside Date (*provided* that the right to terminate this Agreement pursuant to this *Section 7.01(c)* shall not be available to any party where the failure of such party (or any Affiliate or Representative of such party) to fulfill any obligation under this Agreement or any Voting Agreement has resulted in the failure of the Effective Time to have occurred on or before the Outside Date; and *provided further* that if the Registration Statement shall not have been declared effective by the SEC on or before December 11, 2009, then for each day after December 11, 2009 that the SEC has not declared the Registration Statement to be effective, the Outside Date shall automatically be extended by one day until such date as the SEC declares the Registration Statement to be effective and, if the last day of such extension is not a Business Day, then until the next Business Day; and *provided further*, in no event shall the Outside Date be extended beyond February 26, 2010);

(d) by Parent or the Company if there shall be any Legal Prohibition in effect preventing the consummation of the Merger; *provided, however*, that a party shall not be permitted to terminate this

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Agreement pursuant to this *Section 7.01(d)* if the existence of the Legal Prohibition is attributable to the failure of such party (or any Affiliate or Representative of such party) to perform in any material respect any covenant in this Agreement required to be performed by such party (or any Affiliate or Representative of such party) at or before the Effective Time, and *provided, further*, that the party seeking to terminate this Agreement pursuant to this *Section 7.01(d)* shall have used its reasonable best efforts to prevent such Legal Prohibition and to cause any such Legal Prohibition to be vacated or otherwise rendered of no effect as soon as possible and in any event by the Outside Date;

(e) by Parent if the Company Board shall have made a Company Change in Recommendation;

(f) by the Company if the Company Board authorizes the Company, subject to complying with the terms of this Agreement, to accept (or to enter into a written agreement for a transaction constituting) a Superior Proposal; *provided* that immediately before (or contemporaneous with) the termination of this Agreement pursuant to this paragraph, the Company shall pay to Parent the Termination Fee payable pursuant to *Section 7.03(c)*;

(g) by Parent at any time before the Effective Time if: (i) the representations and warranties of the Company set forth in this Agreement shall not be true and correct on and as of the date of such determination as if made on such date (other than those representations and warranties that address matters only as of a particular date, which shall be true and correct as of such date), except where the failure of any such representation or warranty to be true and correct (without giving effect to any Company Material Adverse Effect or other materiality qualifications set forth therein) would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect or impair in any material respect the ability of the Company to perform its obligations under this Agreement or the ability of Parent to enjoy in all material respects the intended benefit of the Transactions; or (ii) the Company shall have, in any material respect, breached or failed to perform or comply with any obligation, agreement or covenant required by this Agreement to be performed or complied with by it, which breach or failure (in each case under clauses (i) and (ii)), following written notice thereof from Parent to the Company, is not cured, or is incapable of being cured, on or before the Outside Date; or

(h) by the Company at any time before the Effective Time if: (i) the representations and warranties of Parent or Merger Sub set forth in this Agreement shall not be true and correct on and as of the date of such determination as if made on such date (other than those representations and warranties that address matters only as of a particular date, which shall be true and correct as of such date), except where the failure of any such representation or warranty to be true and correct (without giving effect to any Parent Material Adverse Effect or other materiality qualifications set forth therein) would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect or impair in any material respect the ability of Parent or Merger Sub to perform their obligations under this Agreement; or (ii) Parent or Merger Sub shall have, in any material respect, breached or failed to perform or comply with any obligation, agreement or covenant required by this Agreement to be performed or complied with by them, which breach or failure (in each case under clauses (i) and (ii)), following written notice thereof from the Company to Parent, is not cured, or is incapable of being cured, on or before the Outside Date.

Section 7.02 Effect of Termination.

In the event of the termination of this Agreement as provided in *Section 7.01*, written notice thereof shall forthwith be given to the other party or parties specifying the provision hereof pursuant to which such termination is made and this Agreement shall be of no further force or effect; *provided, however*, that: (a) *Section 5.08*, this *Section 7.02*, *Section 7.03*, and *Article VIII*, and the Confidentiality Agreement and the Confidentiality and Exclusivity Agreement shall survive the termination of this Agreement and shall remain in full force and effect; and (b) except as provided in *Section 7.03*, the termination of this Agreement shall not relieve any party from any liability or damage that was the result of fraud or the breach of any representation, warranty or covenant contained in this Agreement before the date of such termination.

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Section 7.03 Termination Fee.

(a) If: (i) this Agreement is validly terminated by either Parent or the Company pursuant to *Section 7.01(b)* or *Section 7.01(c)*; (ii) neither Parent nor Merger Sub shall have materially breached any of its representations, warranties or covenants contained in this Agreement; and (iii) at or before the time of any such termination of this Agreement an Acquisition Proposal shall have been made (and such Acquisition Proposal shall not have been withdrawn before the time of the termination of this Agreement) and within 12 months after the date of termination of this Agreement, the Company or any Company Subsidiary consummates an Acquisition Transaction (replacing for purposes of this *Section 7.03(a)*, 20% in the definition thereof with 50%) or enters into a Contract to consummate an Acquisition Transaction that is subsequently consummated, then, within two Business Days after such Acquisition Transaction is consummated the Company shall pay the Termination Fee to Parent.

(b) If this Agreement is validly terminated by Parent pursuant to *Section 7.01(e)* or *Section 7.01(g)*, then, within two Business Days after such termination, the Company shall pay the Termination Fee to Parent.

(c) If this Agreement is validly terminated by the Company pursuant to *Section 7.01(f)*, before (or contemporaneously with) and as a condition to the effectiveness of such termination, the Company shall pay the Termination Fee to Parent.

(d) Each of the parties hereto acknowledges that the agreements contained in this *Section 7.03* are an integral part of the transactions contemplated by this Agreement and that the Termination Fee is not a penalty, but rather is liquidated damages in a reasonable amount that will compensate Parent and Merger Sub, as the case may be, in the circumstances in which such Termination Fee is payable for the efforts and resources expended and opportunities foregone while negotiating this Agreement and in reliance on this Agreement and on the expectation of the consummation of the Transactions, which amount would otherwise be impossible to calculate with precision.

(e) In circumstances under which the Termination Fee is payable and has been paid, Parent and Merger Sub agree that (i) to the extent they have incurred losses or damages in connection with this Agreement other than as a result of fraud or intentional misconduct, their sole and exclusive remedy against the Company and any of its directors, officers, Affiliates or Representatives for any breach, loss or damage shall be to receive payment of the Termination Fee to the extent provided in *Section 7.03* and (ii) upon payment in full of such amounts, (x) neither Parent nor Merger Sub shall have any other rights or claims or seek damages against the Company or any of its directors, officers, Affiliates or Representatives under this Agreement or otherwise, whether at law or equity, in contract, in tort or otherwise, and (y) neither the Company nor any of its directors, officers, Affiliates or Representatives shall have any further liability or obligations relating to or arising out of this Agreement or the Transactions.

ARTICLE VIII

MISCELLANEOUS PROVISIONS

Section 8.01 Amendment.

This Agreement may be amended with the written approval of the respective parties at any time before the Effective Time; *provided, however*, that after the Company Stockholder Approval shall have been obtained, no amendment shall be made which by applicable Legal Requirements or any rule of any relevant national securities exchange requires further approval of the stockholders of the Company, without such further approval.

Section 8.02 Waiver.

(a) No failure on the part of any party to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of any party in exercising any power, right, privilege or remedy under this

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Agreement, shall operate as a waiver of such power, right, privilege or remedy; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

(b) No party shall be deemed to have waived any claim arising out of this Agreement, or any power, right, privilege or remedy under this Agreement, unless the waiver of such claim, power, right, privilege or remedy is expressly set forth in a written instrument duly executed and delivered on behalf of such party; and any such waiver shall not be applicable or have any effect except in the specific instance in which it is given.

Section 8.03 No Survival of Representations and Warranties.

None of the representations, warranties, covenants and other agreements of the parties contained in this Agreement, or any claim with respect thereto, shall survive the Effective Time, except for (and only to the extent that) those covenants, agreements and other provisions contained herein that by their terms apply or are to be performed in whole or in part after the Effective Time.

Section 8.04 Entire Agreement; Counterparts.

This Agreement, the CVR Agreements, the other agreements referred to herein, the Confidentiality Agreement and the Confidentiality and Exclusivity Agreement constitute the entire agreement of the parties hereto and supersede all prior or contemporaneous agreements and understandings, both written and oral, among or between any of the parties hereto with respect to the subject matter hereof and thereof. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument.

Section 8.05 Applicable Legal Requirements; Jurisdiction; Waiver of Jury Trial.

(a) This Agreement is made under, and shall be construed and enforced in accordance with, the Legal Requirements of the State of Delaware applicable to agreements made and to be performed solely therein. The parties hereto agree that any Legal Proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby shall be brought in the Court of Chancery of the State of Delaware, and each of the parties hereby irrevocably consents to the jurisdiction of such court (and of the appropriate appellate courts therefrom) in any such Legal Proceeding and irrevocably waives, to the fullest extent permitted by Legal Requirements, any objection that it may now or hereafter have to the laying of the venue of such Legal Proceeding in any such court or that any such Legal Proceeding brought in any such court has been brought in an inconvenient forum. Each of the parties hereto agrees that a final judgment in any such Legal Proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by Legal Requirements. Each party to this Agreement irrevocably consents to service of process in the manner provided for notices in *Section 8.09*. Nothing in this Agreement will affect the right of any party to this Agreement to serve process in any other manner permitted by Legal Requirements. Each party hereto agrees not to commence any legal proceedings relating to or arising out of this Agreement or the transactions contemplated hereby in any jurisdiction or courts other than as provided herein.

(b) EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND THEREFORE IT HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT AND ANY OF THE AGREEMENTS DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF

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LITIGATION, SEEK TO ENFORCE EITHER OF SUCH WAIVERS, (B) IT UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF SUCH WAIVERS, (C) IT MAKES SUCH WAIVERS VOLUNTARILY, AND (D) IT HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS *Section 8.05(b)*.

Section 8.06 Payment of Expenses.

Whether or not the Merger is consummated, each party hereto shall pay its own expenses incident to preparing for, entering into and carrying out this Agreement and the Transactions. Nothing contained in this Agreement shall be deemed to limit the right or ability of any party to this Agreement to pay such expenses, as and when due and payable.

Section 8.07 Transfer Taxes.

All transfer, documentary, sales, use, stamp, registration and other substantially similar Taxes and fees (including any penalties and interest) incurred in connection with this Agreement (collectively, *Transfer Taxes*) shall be paid by Parent and Merger Sub when due, and Parent and Merger Sub will, at their own expense, file all necessary Tax Returns and other documentation with respect to all such Transfer Taxes.

Section 8.08 Assignability; No Third Party Rights.

Before the Effective Time, neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned, in whole or in part, by operation of a Legal Requirement or otherwise, by any of the parties without the prior written consent of the other parties and any purported assignment without such consent shall be void. This Agreement shall be binding upon, and shall be enforceable by and inure to the benefit of, the parties hereto and their respective permitted successors and assigns. Notwithstanding anything contained herein to the contrary, Parent shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless the Person formed by such consolidation or into which Purchaser is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of Purchaser substantially as an entirety shall expressly assume (or assumes by operation of law) (a) payment (if and to the extent required) of all amounts that may become payable under the CVR Agreements and (b) the performance of every duty and covenant of the CVR Agreements on the part of Parent to be performed or observed; *provided*, further, Parent shall remain jointly and severally liable for the foregoing obligations after the date of such transfer, lease or similar transaction. Except (i) for the rights of stockholders and holders of other securities to receive payment in accordance with *Article II* after the Effective Time, (ii) as set forth in *Section 5.09* and *Section 5.10* and (iii) for the right of the Company (but not of the Surviving Corporation), on behalf of its stockholders, to pursue damages in the event of Parent's or Merger Sub's breach of this Agreement, nothing in this Agreement, express or implied, is intended to or shall confer upon any Person, other than the parties hereto, any right, benefit or remedy of any nature. In circumstances in which the stockholders of the Company do not have the right to seek remedies at law or equity, the obligations of Parent and Merger Sub under this Agreement are material to the Company's execution of this Agreement and any failure by Parent or Merger Sub to comply with the terms of this Agreement shall enable the Company (but not the Surviving Corporation) to seek all remedies available at law or equity to it and on behalf of the stockholders. To the extent permitted by applicable Legal Requirements, it is expressly agreed that in no event shall any former stockholders of the Company (as opposed to the Stockholders' Representative) or any holders of CVRs (as opposed to the Stockholders' Representative) have, after the Effective Time, any power or right to commence or join in any Legal Proceeding based on or arising out of this Agreement or any of the CVR Agreements.

Section 8.09 Notices.

All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given or made as follows: (a) if sent by registered or certified mail in the United States return receipt requested, upon receipt; (b) if sent designated for overnight delivery by nationally

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recognized overnight air courier (such as Federal Express), upon receipt of proof of delivery; (c) if sent by email before 5:00 p.m. California time, when transmitted; (d) if sent by email after 5:00 p.m. California time, on the following Business Day; and (e) if otherwise actually personally delivered, when delivered, *provided* that such notices, requests, demands and other communications are delivered to the address set forth below, or to such other address as any party shall provide by like notice to the other parties to this Agreement:

if to Parent or Merger Sub:

Ligand Pharmaceuticals Incorporated

10275 Science Center Drive

San Diego, CA 92121

Attention: John Higgins

Email: jhiggins@ligand.com

Beginning December 1, 2009, please use instead the following address for Ligand:

11085 North Torrey Pines Road, Suite 300, La Jolla, California 92037.

with a copy to:

Stradling Yocca Carlson & Rauth

4365 Executive Drive, Suite 1500

San Diego, CA 92121

Attention: Hayden Trubitt, Esq.

Email: htrubitt@sycr.com

if to the Company:

Metabasis Therapeutics, Inc.

11119 North Torrey Pines Road

La Jolla, CA 92037

Attention: David F. Hale

Email: dfhale@biopharmaventures.com

with a copy to:

Cooley Godward Kronish LLP

4401 Eastgate Mall

San Diego, CA 92121

Edgar Filing: LIGAND PHARMACEUTICALS INC - Form S-4/A

Attention: Jason Kent, Esq.

Email: jkent@cooley.com

if to the Stockholders Representative:

David F. Hale

1042-B N. El Camino Real

Suite 430

Encinitas, CA 92024

Email: dfhale@biopharmaventures.com

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Section 8.10 Severability.

Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If the final judgment of a court of competent jurisdiction declares that any term or provision hereof is invalid or unenforceable, the parties hereto agree that the court making such determination shall have the power to limit the term or provision, to delete specific words or phrases or to replace any invalid or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the parties hereto agree to negotiate in good faith to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term.

Section 8.11 Obligation of Parent.

Parent shall ensure that each of Merger Sub and the Surviving Corporation duly performs, satisfies and discharges on a timely basis each of the covenants, obligations and liabilities of Merger Sub and (after the Effective Time) the Surviving Corporation under this Agreement and the CVR Agreements.

Section 8.12 Specific Performance.

The parties hereto agree that irreparable damage would occur in the event any of the provisions of this Agreement were not to be performed in accordance with the terms hereof and that the parties shall be entitled to specific performance of the terms hereof in addition to any other remedies at law or in equity. Each party agrees to waive any requirement for the posting of, or securing of, a bond in connection with any such remedy.

Section 8.13 Remedies.

All rights and remedies of either party hereto are cumulative of each other and of every other right or remedy such party may otherwise have at law or in equity, and the exercise of one or more rights or remedies shall not prejudice or impair the concurrent or subsequent exercise of other rights or remedies.

Section 8.14 Construction.

(a) For purposes of this Agreement, whenever the context requires: the singular number shall include the plural, and vice versa; the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders; and the neuter gender shall include the masculine and feminine genders.

(b) The parties hereto agree that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be applied in the construction or interpretation of this Agreement.

(c) As used in this Agreement, the words `include` and `including`, and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words `without limitation`.

(d) Except as otherwise indicated, all references in this Agreement to `Articles` `Sections`, `Annexes`, `Exhibits` and `Schedules` are intended to refer to `Articles`, `Sections`, `Annexes`, `Exhibits` or `Schedules` to this Agreement, as the case may be.

(e) All references in this Agreement to a document or instrument having been made available to such Party shall be deemed to include the making available of such document or instrument to any Representative of such Party.

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(f) All references in this Agreement to \$ are intended to refer to U.S. dollars.

(g) Unless otherwise specifically provided for herein, the term or shall not be deemed to be exclusive.

(h) The titles, captions or headings of the Sections and Subsections herein are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement.

Section 8.15 Further Action.

The parties hereto shall execute and deliver such certificates and other documents and take such other actions as may be reasonably necessary or appropriate in order to effect and to more perfectly evidence the Merger and the Transactions, including, but not limited to, making filings, recordings or publications required under the DGCL. Without limitation, if at any time after the Effective Time any further action is necessary to vest in the Surviving Corporation the title to all property or rights of Merger Sub or the Company, the officers of the Surviving Entity are fully authorized in the name of Merger Sub or the Company, as the case may be, to take, and shall take, any and all such lawful action.

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IN WITNESS WHEREOF, Parent, Merger Sub, the Company and the Stockholders Representative have caused this Agreement to be executed as of the date first written above.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ JOHN L. HIGGINS
Name: **John L. Higgins**
Title: **President & CEO**

MOONSTONE ACQUISITION, INC.

By: /s/ JOHN L. HIGGINS
Name: **John L. Higgins**
Title: **President & CEO**

METABASIS THERAPEUTICS, INC.

By: /s/ MARK D. ERION
Name: **Mark D. Erion, Ph.D.**
Title: **President and Chief Executive Officer**

DAVID F. HALE, as Stockholders Representative

By: /s/ DAVID F. HALE

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EXHIBIT A: Roche CVR Agreement

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EXHIBIT B: TR Beta CVR Agreement

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EXHIBIT C: Glucagon CVR Agreement

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EXHIBIT D: General CVR Agreement

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EXHIBIT E: List of Potential Consultants

Edgardo Baracchini

David Bullough

Glenn Dourado

Barry Gumbiner

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Annex B

Form of Roche CVR Agreement

CONTINGENT VALUE RIGHTS AGREEMENT*

THIS CONTINGENT VALUE RIGHTS AGREEMENT, dated as of [] (this **Agreement** , is entered into by and among Ligand Pharmaceuticals Incorporated, a Delaware corporation (**Buyer**), Metabasis Therapeutics, Inc., a Delaware corporation (**Target**), David F. Hale, as Stockholders Representative (the **Stockholders Representative**), and Mellon Investor Services LLC, a New Jersey limited liability company, as Rights Agent (the **Rights Agent**) and as initial Roche CVR Registrar (as defined herein).

Preamble

Buyer, Moonstone Acquisition, Inc., a Delaware corporation and wholly-owned subsidiary of Buyer (**Sub**), Target and the Stockholders Representative have entered into an Agreement and Plan of Merger dated as of October 26, 2009 (as amended to date, the **Merger Agreement**), pursuant to which Sub will merge with and into Target (the **Merger**), with Target surviving the Merger as a subsidiary of Buyer.

Pursuant to the Merger Agreement, Buyer agreed to create and issue to Target s stockholders of record immediately before the effective time of the Merger, contingent value rights as hereinafter described.

The parties have done all things necessary to make the contingent value rights, when issued pursuant to the Merger Agreement and hereunder, the valid obligations of Buyer and to make this Agreement a valid and binding agreement of Buyer, in accordance with its terms.

NOW, THEREFORE, for and in consideration of the premises and the consummation of the transactions referred to above, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders (as hereinafter defined), as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Definitions.

(a) For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(i) the terms defined in this Article have the meanings assigned to them in this Article, and include the plural as well as the singular;

(ii) all accounting terms used herein and not expressly defined herein shall have the meanings assigned to such terms in accordance with United States generally accepted accounting principles, as in effect on the date hereof;

(iii) the words herein, hereof and hereunder and other words of similar import refer to this Agreement as a whole and not to any particular Article, Section or other subdivision;

* Including amendments made by Amendment to Agreement and Plan of Merger dated as of November 25, 2009. The amendments are to the first paragraph of the Preamble, Section 1.1(b) (the definitions of Landlord Agreement and Roche CVR Payment Amount), Section 2.6, Section 2.7(a), Section 2.7(e) (deleted) and Section 7.11.

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(iv) unless the context otherwise requires, words describing the singular number shall include the plural and vice versa, words denoting any gender shall include all genders and words denoting natural Persons shall include corporations, partnerships and other Persons and vice versa; and

(v) all references to including shall be deemed to mean including without limitation.

(b) Capitalized terms used but not otherwise defined herein shall have the meanings ascribed thereto in the Merger Agreement. The following terms shall have the meanings ascribed to them as follows:

Achievement Certificate has the meaning set forth in Section 2.4(a).

Board of Directors means the board of directors of Buyer.

Board Resolution means a copy of a resolution certified by the secretary or an assistant secretary of Buyer to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Rights Agent.

Business Day means any day other than a Saturday, Sunday or a day on which the banks in New York, New Jersey or California are authorized or obligated by law or executive order to close.

Close of Business on any given date shall mean 5:00 P.M., California time, on such date; provided, however, that if such date is not a Business Day it shall mean 5:00 P.M., California time, on the next succeeding Business Day.

Competitor of Buyer has the same meaning as set forth in the Merger Agreement for Competitor of Parent.

Fraction means the quotient of (a) the number of Company Shares outstanding as of the Effective Time plus the number of Roche CVRs issued between the Effective Time and the occurrence of the applicable Roche CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, minus the number of Dissenting Shares (determined as of the occurrence of the applicable Roche CVR Payment Event), divided by (b) the sum of the number of Company Shares outstanding as of the Effective Time plus the number of Roche CVRs issued between the Effective Time and the occurrence of the applicable Roche CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.

Fund Distribution Date has the meaning set forth in Section 2.4(g).

Holder means a Person in whose name a Roche CVR is registered in the Roche CVR Register.

Landlord means ARE-SD Region No. 24, LLC.

Landlord Agreement means the Agreement for Termination of Lease and Voluntary Surrender of Premises dated July 21, 2009 between the Company and the Landlord, including any amendments thereto entered into before the Effective Time.

Non-Achievement Certificate has the meaning set forth in Section 2.4(b).

Notice of Objection has the meaning set forth in Section 2.4(c).

Objection Period has the meaning set forth in Section 2.4(c).

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Officer s Certificate means a certificate signed by the chief executive officer, president, chief financial officer, any vice president, the controller, the treasurer or the secretary, in each case, of Buyer, in his or her capacity as such an officer, and delivered to the Rights Agent.

Outside Date means the last potential Roche CVR Payment Date.

Person shall mean any individual, firm, corporation, limited liability company, partnership, trust or other entity, and shall include any successor (by merger or otherwise) thereof or thereto.

Rights Agent means the Rights Agent named in the first paragraph of this Agreement, until a successor Rights Agent shall have become such pursuant to the applicable provisions of this Agreement, and thereafter Rights Agent shall mean such successor Rights Agent.

Rights Agent Fees and Expenses means the agreed-upon fees and expenses of the Rights Agent to act in such capacity pursuant to the terms of this Agreement.

Roche Agreement means that certain Collaboration and License Agreement, effective as of August 7, 2008, by and among Hoffmann-La Roche Inc., Roche Palo Alto LLC, F. Hoffmann-La Roche Ltd. and Target, as amended from time to time.

Roche CVR Payment Amount means, as applicable, a Roche Milestone Payment Amount, a Roche Purchase Payment Amount or a Roche Royalty Payment Amount; less in each case (i) 1% (or such lesser percentage as is the maximum permissible pursuant to the following proviso) of such Roche Milestone Payment Amount, Roche Purchase Payment Amount or Roche Royalty Payment Amount, as applicable, which amount shall be contributed to the Stockholders Representative Fund; provided that no such amount shall be contributed to the Stockholders Representative Fund to the extent that the sum of such amount and the amount then held in the Stockholders Representative Fund would exceed \$300,000, (ii) to the extent applicable in respect thereof, any amount payable by Buyer or the Surviving Corporation to the Landlord pursuant to the terms of Section 10 of the Landlord Agreement and (iii) to the extent applicable in respect thereof, any contingent severance payments payable to the employees that were terminated in Target s May 2009 reduction in force.

Roche CVR Payment Date means the January 1 or July 1 next following the date (if any and if ever) that a Roche CVR Payment Amount is payable by Buyer to the Holders, which date shall be established pursuant to Section 2.4.

Roche CVR Payment Event means, as applicable, a Roche Milestone Payment Event, a Roche Purchase Payment Amount or a Roche Royalty Payment Event.

Roche CVR Register has the meaning set forth in Section 2.3(b).

Roche CVR Registrar has the meaning set forth in Section 2.3(b).

Roche CVRs means the Roche Contingent Value Rights issued by Buyer pursuant to the Merger Agreement and this Agreement.

Roche Milestone Payment Amount means a cash amount equal to the product of the Fraction times 65% of the Proceeds actually received by Buyer, Target or the Surviving Corporation, after October 1, 2009 and before the Outside Date, in connection with a Roche Milestone Payment Event.

Roche Milestone Payment Event means the receipt by Buyer, Target or the Surviving Corporation of a milestone payment pursuant to the Roche Agreement.

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Roche Purchase Payment Amount means a cash amount equal to the product of the Fraction times 65% of the Proceeds actually received by Buyer, Target or the Surviving Corporation, after October 1, 2009 and before the Outside Date, in connection with a Roche Purchase Payment Event, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates (including, but only from and after October 1, 2009, Target), in connection with the Roche Purchase Payment Event (including reasonable attorneys fees and brokers commissions).

Roche Purchase Payment Event means the full or partial sale, surrender or transfer by Buyer, Target or the Surviving Corporation to Roche or any other third party of rights to receive milestone payments under the Roche Agreement, rights to receive royalty payments under the Roche Agreement, or all or any portion of a drug candidate or technology or Intellectual Property from the drug development program licensed pursuant to the Roche Agreement.

Roche Royalty Payment Amount means a cash amount equal to the product of the Fraction times 68% of the Proceeds actually received by Buyer, Target or the Surviving Corporation, after October 1, 2009 and before the Outside Date, in connection with a Roche Royalty Payment Event.

Roche Royalty Payment Event means the receipt by Buyer, Target or the Surviving Corporation of a royalty payment pursuant to the Roche Agreement.

Surviving Person has the meaning set forth in Section 6.1(a)(i).

ARTICLE II

CONTINGENT VALUE RIGHTS

Section 2.1 Issuance of Roche CVRs; Appointment of Rights Agent.

- (a) The Roche CVRs shall be issued pursuant to the Merger Agreement at the time and in the manner set forth in the Merger Agreement or pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.
- (b) Buyer hereby appoints the Rights Agent to act as rights agent for Buyer in accordance with the express terms and conditions hereinafter set forth in this Agreement (and no implied terms or conditions), and the Rights Agent hereby accepts such appointment.
- (c) To the extent permitted by applicable Legal Requirements, it is expressly agreed that in no event shall any Holders (as opposed to the Stockholders Representative) or any former stockholders of Target (as opposed to the Stockholders Representative) have, after the Effective Time, any power or right to commence or join in any Legal Proceeding based on or arising out of this Agreement or the Merger Agreement.

Section 2.2 Transferability.

At the option of a respective holder thereof, the Roche CVRs may be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, but only in accordance with Section 2.3 hereof and in compliance with all applicable Legal Requirements.

Section 2.3 No Certificate; Registration; Registration of Transfer; Change of Address.

- (a) The Roche CVRs shall be issued in book-entry form only and shall not be evidenced by a certificate or other instrument.

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(b) The Rights Agent shall keep a register (the ***Roche CVR Register***) for the registration of Roche CVRs. The Rights Agent is hereby initially appointed Roche CVR registrar and transfer agent (***Roche CVR Registrar***) for the purpose of registering Roche CVRs and transfers of Roche CVRs as herein provided. Upon any change in the identity of the Rights Agent, the successor Rights Agent shall automatically also become the successor Roche CVR Registrar.

(c) Every request made to transfer a Roche CVR must be in writing and accompanied by a written instrument or instruments of transfer and any other documentation requested by Buyer or Roche CVR Registrar, in a form reasonably satisfactory to Buyer and the Roche CVR Registrar, properly completed and duly executed by the registered Holder or Holders thereof or by the duly appointed legal representative thereof or by a duly authorized attorney, such signature to be guaranteed by a participant in a recognized Signature Guarantee Medallion Program. Upon receipt of such written request and materials, and all other reasonably necessary information, the Roche CVR Registrar shall register the transfer of the Roche CVRs in the Roche CVR Register. All duly transferred Roche CVRs registered in the Roche CVR Register shall be the valid obligations of Buyer, evidencing the same right and shall entitle the transferee to the same benefits and rights under this Agreement, as those previously held by the transferor. No transfer of a Roche CVR shall be valid until registered in the Roche CVR Register, and any transfer not duly registered in the Roche CVR Register will not be honored by Buyer or the Rights Agent until it is so registered, and then it will be honored only prospectively. Any transfer or assignment of the Roche CVRs shall be without charge (other than the cost of any tax or charge that may be payable in respect of such transfer or assignment, which shall be the responsibility of the transferor) to the Holder. The Rights Agent shall have no duty or obligation under any Section of this Agreement that requires the payment of taxes or charges unless and until it is satisfied that such taxes and/or charges have been or will be paid.

(d) A Holder may make a written request to the Roche CVR Registrar to change such Holder's address of record in the Roche CVR Register. The written request must be duly executed by the Holder and conform to such other reasonable requirements as the Rights Agent may from time to time establish. Upon receipt of such proper written request, the Roche CVR Registrar shall promptly record the change of address in the Roche CVR Register.

(e) Upon reasonable written request of the Stockholders' Representative, the Rights Agent shall (at the Stockholders' Representative's expense) promptly provide a copy of the Roche CVR Register to the Stockholders' Representative.

Section 2.4 Payment Procedures.

(a) Promptly following the occurrence of a Roche CVR Payment Event, but in no event later than five Business Days after the occurrence of a Roche CVR Payment Event, Buyer shall deliver to the Rights Agent and the Stockholders' Representative a certificate (the ***Achievement Certificate***), certifying that the Holders are entitled to receive a Roche CVR Payment Amount (and setting forth the calculation of such Roche CVR Payment Amount), and shall also deliver to the Rights Agent the indicated Roche CVR Payment Amount in cash. Until such Achievement Certificate is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that a Roche CVR Payment Event has not occurred. No transaction described in Section 6.1(a) hereof shall give the Holders the right to receive a Roche CVR Payment Amount. Such cash amount deposited with the Rights Agent shall, pending its disbursement to such holders, be invested by the Rights Agent in (i) direct obligations of the United States of America, (ii) obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest, or (iii) money market funds investing solely in a combination of the foregoing. Any interest and other income resulting from such investments shall be applied first to the satisfaction of the Rights Agent Fees and Expenses, and any remainder (the ***Remainder***) shall be paid to the Holders as set forth in Section 2.4(e) below. The Rights Agent must receive federal or other immediately available funds before 1:00 p.m., Eastern Time, on the funding date in order for such funds to be so invested on such date. Funds received after such time on the funding date will not be so invested until the following Business Day. Except as expressly provided above, the Rights Agent will not be obligated to calculate or pay interest to any Holder or any other party.

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(b) If no Roche Milestone Payment Event has occurred on or before the Outside Date, then, within five Business Days after the Outside Date, Buyer shall deliver to the Rights Agent and the Stockholders Representative a certificate, stating that no Roche Milestone Payment Event occurred. If no Roche Royalty Payment Event has occurred on or before the Outside Date, then, within five Business Days after the Outside Date, Buyer shall deliver to the Rights Agent a certificate, stating that no Roche Royalty Payment Event occurred. If no Roche Purchase Payment Event has occurred on or before the Outside Date, then, within five Business Days after the Outside Date, Buyer shall deliver to the Rights Agent a certificate, stating that no Roche Purchase Payment Event occurred. Such certificate or certificates are herein referred to in the singular as the ***Non-Achievement Certificate***. Until such Non-Achievement Certificate is received by the Rights Agent, the Rights Agent shall have no duties or obligations with respect to the Outside Date, and the Rights Agent shall have no duties or obligations to monitor or determine the Outside Date.

(c) Subject to Section 5.16(a) of the Merger Agreement, within 45 calendar days after delivery by Buyer of a Non-Achievement Certificate or Achievement Certificate (the ***Objection Period***), the Stockholders Representative may deliver a written notice to Buyer (with a copy to the Rights Agent) specifying that the Stockholders Representative objects to (i) the determination of Buyer that no Roche Milestone Payment Event occurred on or before the Outside Date and/or that no Roche Royalty Payment Event occurred on or before the Outside Date and/or that no Roche Purchase Payment Event occurred on or before the Outside Date or (ii) the calculation of the Roche CVR Payment Amount, as applicable (a ***Notice of Objection***), and stating the reason upon which the Stockholders Representative has determined that (A) the Roche CVR Payment Event has occurred on or before the Outside Date or (B) the calculation of the Roche CVR Payment Amount is in error, as applicable. Any dispute arising from a Notice of Objection shall be resolved in accordance with the procedure set forth in Section 7.12, which decision shall be binding on the parties hereto and every Holder.

(d) If a Notice of Objection with respect to a Non-Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to receive the Roche CVR Payment Amount, and Buyer and the Rights Agent shall have no further obligations with respect to the Roche CVR Payment Amount. If a Notice of Objection with respect to an Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to assert that the calculation of the Roche CVR Payment Amount is in error.

(e) If Buyer delivers an Achievement Certificate to the Rights Agent and the Stockholders Representative or if the Roche CVR Payment Amount is determined to be payable pursuant to Section 2.4(c) above, Buyer shall establish a Roche CVR Payment Date on the January 1 or July 1 which next follows the date of the Achievement Certificate or the date of final determination pursuant to Section 2.4(c) above, as applicable, and deliver written notice to the Rights Agent of such determination at least five (5) Business Days before such date. Until such notice is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that the Roche CVR Payment Date has not occurred. The Rights Agent shall have no duty or obligation to establish any payment amount or payment date with respect to the Roche CVR Payment Date. Upon receipt of such written notice and all other necessary information, the Rights Agent will, on such Roche CVR Payment Date, distribute the Roche CVR Payment Amount and the Remainder to the Holders (each Holder being entitled to receive its *pro rata* share of the Roche CVR Payment Amount and the Remainder based on the number of Roche CVRs held (as of the third Business Day before the Roche CVR Payment Date) by such Holder as reflected on the Roche CVR Register) by check mailed to the address of each such respective Holder as then reflected in the Roche CVR Register.

(f) Buyer shall be entitled to deduct and withhold, or cause to be deducted or withheld, from each Roche CVR Payment Amount otherwise payable pursuant to this Agreement, such amounts as Buyer or the applicable subsidiary of Buyer is required to deduct and withhold with respect to the making of such payment under the Internal Revenue Code, or any provision of state, local or foreign tax law. To the extent that amounts are so withheld or paid over to or deposited with the relevant governmental entity, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Holder in respect of which such deduction and withholding was made.

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(g) On such date following the Outside Date as the holders of at least 20% of the outstanding General CVRs shall request via two Business Day prior written notice to the Stockholders Representative, the Stockholders Representative shall deliver to the Rights Agent in cash any amount remaining available in the Stockholders Representative Fund together with written instructions regarding the distribution of such amount (including the names and addresses of the applicable Holders and the breakdown of amounts to be distributed), and the Rights Agent will, within five Business Days of receipt of such instructions and amount (such date the ***Fund Distribution Date***), distribute such amount in accordance with such instructions to the Holders of the General CVRs, the Glucagon CVRs, the TR Beta CVRs and the Roche CVRs (each Holder being entitled to receive its *pro rata* share of such amount based on the number of General CVRs, Glucagon CVRs, TR Beta CVRs and Roche CVRs held (as of the Fund Distribution Date) by such Holder as reflected in the General CVR Register, the Glucagon CVR Register, the TR Beta CVR Register and the Roche CVR Register (as defined herein and in the General CVR Agreement, the Glucagon TR Beta CVR Agreement and the TR Beta CVR Agreement) by check mailed to the address of each such respective Holder as reflected in the General CVR Register, the Glucagon CVR Register, the TR Beta CVR Register and the Roche CVR Register as of the Close of Business on the last Business Day before the Fund Distribution Date. Until such written instructions are received by the Rights Agent, the Rights Agent shall not be obligated to take any action with respect to this paragraph. After the Fund Distribution Date, the Stockholders Representative shall be relieved of any and all duties and obligations under the Merger Agreement or any of the CVR Agreements.

(h) Subject to prior execution and delivery by the Stockholders Representative to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, Buyer shall promptly furnish to the Stockholders Representative all information and documentation in connection with this Agreement and the Roche CVRs that the Stockholders Representative may reasonably request in connection with the determination of whether a Roche CVR Payment Event has occurred or whether the calculation of a Roche CVR Payment Amount is in error, as applicable. Subject to prior execution and delivery by the applicable Holders to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, the Stockholders Representative may forward any information and documentation it receives to the Holders who request such information, but the Stockholders Representative covenants and agrees that in no event shall the Stockholders Representative provide any such information or documentation to any Holder who (i) is a Competitor of Buyer or (ii) holds fewer than 1% of the total number of Roche CVRs.

Section 2.5 No Voting, Dividends or Interest; No Equity or Ownership Interest in Buyer.

(a) The Roche CVRs shall not have any voting or dividend rights, and interest shall not accrue on any amounts payable on the Roche CVRs to any Holder.

(b) The Roche CVRs shall not represent any equity or ownership interest in Buyer (or in any constituent company to the Merger) or in any drug development program or Intellectual Property or other asset. The rights of the holders of Roche CVRs are limited to those expressly set forth in this Agreement, and such holders' sole right to receive property hereunder is the right to receive cash from Buyer through the Rights Agent in accordance with the terms hereof.

Section 2.6 Sole Discretion and Decision Making Authority; No Fiduciary Duty.

Notwithstanding anything contained herein to the contrary, Buyer shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, with respect to the Roche Agreement and over resolution of any third party claims relating to Contingent Payments; provided, that in no event shall declining to effect a Roche Purchase Payment Event or any other decision to retain existing rights under the Roche Agreement be deemed not to satisfy the in good faith and with commercial reasonableness standard.

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Section 2.7 Satisfaction of Contingent Payments. Notwithstanding anything herein to the contrary:

(a) It is understood that upon the occurrence of certain payment events under this Agreement and the other CVR Agreements, the Landlord may be entitled to payments pursuant to the terms of Section 10 of the Landlord Agreement and the employees that were terminated in Target's May 2009 reduction in force may be entitled to contingent severance payments pursuant to their respective severance arrangements (together, and including any payments to resolve claims arising in connection therewith, the ***Contingent Payments***).

(b) In general, such Contingent Payments are to be satisfied first from amounts otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event, but in some instances the full amount payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be less than the Contingent Payments owing in respect of such payment event.

(c) In each case described in Section 2.7(b) above, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be paid by Buyer directly to the beneficiaries of the Contingent Payments rather than to or for the benefit of the holders of the CVRs under the applicable CVR Agreement, and the remainder of the Contingent Payments owing in respect of such payment event (the ***Excess***) shall be paid by Buyer directly to the beneficiaries of the Contingent Payments.

(d) If an Excess is paid by Buyer pursuant to Section 2.7(c) of this Agreement or of any of the other CVR Agreements, then upon the next payment event under this Agreement or under any of the other CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid), Buyer shall withhold from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event, and shall keep for Buyer's own account to reimburse Buyer for having paid the Excess, an amount equal to 100% of the Excess (or, if less, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event). If Buyer is not thereby reimbursed for the entire Excess, the shortfall shall be rolled forward to be satisfied in the same manner by withholding from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of the next-to-occur payment event under any one of the CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid or in connection with which the Excess was partially satisfied).

ARTICLE III

THE RIGHTS AGENT

Section 3.1 Certain Duties and Responsibilities.

The Rights Agent shall be authorized and protected and shall not have any liability for, or in respect of any actions taken, suffered or omitted to be taken by it in connection with its acceptance and administration of this Agreement and the exercise and performance of its duties hereunder, except to the extent of its own willful misconduct, bad faith or gross negligence (each as determined by a final, non-appealable judgment of a court of competent jurisdiction). No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers.

Section 3.2 Certain Rights of Rights Agent.

The Rights Agent undertakes to perform such duties and only such duties as are specifically set forth in this Agreement, and no implied covenants or obligations shall be read into this Agreement against the Rights Agent. In addition:

(a) the Rights Agent may rely and shall be authorized and protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent,

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order, power of attorney, endorsement, affidavit, letter or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties. The Rights Agent shall not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder but as to which no notice was provided, and the Rights Agent shall be fully protected and shall incur no liability for failing to take any action in connection therewith unless and until it has received such notice;

(b) whenever the Rights Agent shall deem it necessary or desirable that any fact or matter be proved or established by Buyer before taking, suffering or omitting to take any action hereunder, the Rights Agent may, in the absence of willful misconduct, bad faith or gross negligence on its part (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), request and rely upon an Officer's Certificate from Buyer with respect to such fact or matter; and such certificate shall be full and complete authorization and protection to the Rights Agent and the Rights Agent shall incur no liability for or in respect of any action taken, suffered or omitted to be taken by it under the provisions of this Agreement in reliance upon such certificate. The Rights Agent shall be fully authorized and protected in relying upon the most recent instructions received from Buyer. In the event the Rights Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Rights Agent hereunder, the Rights Agent, may, in its sole discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to Buyer or any other person or entity for refraining from taking such action, unless the Rights Agent receives written instructions from Buyer that eliminates such ambiguity or uncertainty to the satisfaction of the Rights Agent;

(c) the Rights Agent may engage and consult with counsel of its selection (who may be legal counsel for Buyer and/or an employee of the Rights Agent) and the advice of such counsel or any opinion of counsel shall be full and complete authorization and protection to the Rights Agent in respect of any action taken, suffered or omitted to be taken by it hereunder in reliance thereon in the absence of willful misconduct, bad faith or gross negligence on the part of the Rights Agent (as determined by a final, non-appealable judgment of a court of competent jurisdiction);

(d) in the event of arbitration, the Rights Agent may engage and consult with tax experts, valuation firms and other experts and third parties that it, in its sole and absolute discretion, deems appropriate or necessary to enable it to discharge its duties hereunder;

(e) the permissive rights of the Rights Agent to do things enumerated in this Agreement shall not be construed as a duty;

(f) the Rights Agent shall not be required to give any note or surety in respect of the execution of such powers or otherwise in respect of the premises;

(g) Buyer agrees to indemnify the Rights Agent for, and hold the Rights Agent harmless against, any loss, liability, damage, judgment, fine, penalty, claim, demand, suit, settlement, cost or expense (including, without limitation, the fees and expenses of legal counsel), incurred without willful misconduct, bad faith or gross negligence on the part of the Rights Agent (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), for any action taken, suffered or omitted to be taken by the Rights Agent in connection with the acceptance and administration of this Agreement, or the exercise or performance of its duties hereunder, including without limitation, the costs and expenses of defending against any claim of liability hereunder, directly or indirectly. The costs and expenses incurred in enforcing this right of indemnification shall be paid by Buyer. The provisions of this Article 3 shall survive the termination of this Agreement, the payment of any distributions made pursuant to this Agreement, and the resignation, replacement or removal of the Rights Agent hereunder, including, without limitation, the costs and expenses of defending a claim of liability hereunder;

(h) Except as paid pursuant to Section 2.4(a) of this Agreement, Buyer agrees to pay the Rights Agent Fees and Expenses in connection with this Agreement, as set forth on Schedule 1 hereto, and further including reimbursement of the Rights Agent for all taxes and charges, reasonable expenses and other charges of any kind and nature incurred by the Rights Agent in the execution of this Agreement (other than

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taxes measured by the Rights Agent's net income) and reimbursement for all reasonable and necessary out-of-pocket expenses (including reasonable fees and expenses of the Rights Agent's counsel and agent) paid or incurred by it in connection with the preparation, negotiation, delivery, amendment, administration and execution by the Rights Agent of this Agreement and its duties hereunder;

(i) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by Buyer only;

(j) The Rights Agent shall not have any liability for or be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof; nor shall it be responsible for any breach by Buyer of any covenant or failure by Buyer to satisfy conditions contained in this Agreement;

(k) Buyer agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of its duties under this Agreement;

(l) The Rights Agent and any stockholder, affiliate, director, officer, employee or agent of the Rights Agent may buy, sell or deal in any of the Rights or other securities of Buyer or become pecuniarily interested in any transaction in which Buyer may be interested, or contract with or lend money to Buyer or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent or any stockholder, affiliate, director, officer, employee or agent from acting in any other capacity for Buyer or for any other Person; and

(m) The Rights Agent shall not be subject to, nor be required to comply with, or determine if any person or entity has complied with, the Merger Agreement or any other agreement between or among any of Buyer, Target, Stockholders' Representative or any other parties hereto, even though reference thereto may be made in this Agreement, or to comply with any notice, instruction, direction, request or other communication, paper or document other than as expressly set forth in this Agreement.

Section 3.3 Resignation and Removal; Appointment of Successor.

(a) The Rights Agent may resign and be discharged from its duties at any time by giving written notice thereof to Buyer and the Stockholders' Representative specifying a date when such resignation shall take effect, which notice shall be sent at least 30 days before the date so specified.

(b) If the Rights Agent shall resign, be removed or become incapable of acting, Buyer, by way of a Board Resolution, shall promptly appoint a qualified successor Rights Agent who may (but need not) be a Holder but shall not be an officer of Buyer. The successor Rights Agent so appointed shall, forthwith upon its acceptance of such appointment in accordance with this Section 3.3(b), become the successor Rights Agent.

(c) Buyer shall give notice to the Stockholders' Representative of each resignation and each removal of a Rights Agent and each appointment of a successor Rights Agent. Such notice shall include the name and address of the successor Rights Agent. If Buyer fails to send such notice within ten days after acceptance of appointment by a successor Rights Agent, the successor Rights Agent shall cause such notice to be mailed at the expense of Buyer.

Section 3.4 Acceptance of Appointment by Successor.

Every successor Rights Agent appointed hereunder shall execute, acknowledge and deliver to Buyer, the Stockholders' Representative and the retiring Rights Agent an instrument accepting such appointment and a counterpart of this Agreement, and thereupon such successor Rights Agent, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Rights Agent;

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provided, that upon the request of Buyer, the Stockholders Representative or the successor Rights Agent, such retiring Rights Agent shall execute and deliver an instrument transferring to such successor Rights Agent all the rights, powers and trusts of the retiring Rights Agent and shall cooperate in the transfer of all relevant data, including the Roche CVR Register, to the successor Rights Agent.

ARTICLE IV

COVENANTS

Section 4.1 List of Holders.

Buyer shall furnish or cause to be furnished to the Rights Agent in such form as Buyer receives from its transfer agent (or other agent performing similar services for Buyer), the names, addresses and Roche CVR holdings of the Holders, within five Business Days after the effective time of the Merger. Buyer shall furnish or cause to be furnished supplementally to the Rights Agent the names, addresses and Roche CVR holdings of any persons acquiring Roche CVRs upon the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, forthwith after each such exercise.

Section 4.2 Payment of Roche CVR Payment Amount.

Buyer shall duly and promptly pay the Roche CVR Payment Amount, if any, in immediately available funds, to the Rights Agent to be distributed to the Holders in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. The Rights Agent shall have no liability of any kind, and shall not be obligated to make any payments, unless and until it receives the Roche CVR Payment Amount from Buyer.

Section 4.3 Assignments.

Buyer shall not, in whole or in part, assign any of its obligations under this Agreement other than in accordance with the terms of Section 6.1 hereof.

Section 4.4 Availability of Information.

Buyer will comply with all applicable periodic public information reporting requirements of the SEC to which it may from time to time be subject. Buyer will provide to the Rights Agent all information in connection with this Agreement and the Roche CVRs that the Rights Agent may reasonably request.

Section 4.5 Purchase Payment Event.

Notwithstanding anything contained herein to the contrary, neither Buyer nor its Affiliates shall cause a Roche Purchase Payment Event without the consent of the Stockholders Representative (to be granted or withheld in the sole discretion of the Stockholders Representative) unless the Proceeds actually received by Buyer in such Roche Purchase Payment Event exceed \$50 million (inclusive of amounts payable to the Holders in respect thereof).

ARTICLE V

AMENDMENTS

Section 5.1 Amendments Without Consent of Stockholders Representative/ Holders.

(a) Without the consent of the Stockholders Representative or any Holders or the Rights Agent, Buyer, when authorized by a Board Resolution, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person to Buyer and the assumption by any such successor of the covenants of Buyer herein in a transaction contemplated by Section 6.1 hereof; or

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(ii) to evidence the termination of the Roche CVR Registrar and the succession of another Person as a successor Roche CVR Registrar and the assumption by any successor of the obligations of the Roche CVR Registrar herein.

(b) Without the consent of the Stockholders Representative or any Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent, in the Rights Agent's sole and absolute discretion, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person as a successor Rights Agent and the assumption by any successor of the covenants and obligations of the Rights Agent herein;

(ii) to add to the covenants of Buyer such further covenants, restrictions, conditions or provisions as the Board of Directors shall consider to be for the protection of the Holders; provided, that in each case, such provisions shall not adversely affect the interests of the Holders;

(iii) to cure any ambiguity, to correct or supplement any provision herein that may be defective or inconsistent with any other provision herein, or to make any other provisions with respect to matters or questions arising under this Agreement; provided, that in each case, such provisions shall not adversely affect the interests of the Holders; or

(iv) to add, eliminate or change any provision of this Agreement unless such addition, elimination or change is adverse to the interests of the Holders and/or to the interests of the Stockholders Representative.

(c) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.1, Buyer shall so notify the Stockholders Representative in writing.

Section 5.2 Amendments With Consent of Stockholders Representative or Holders.

(a) Subject to Section 5.1 (which amendments pursuant to Section 5.1 may be made without the consent of the Holders), with the consent of the Stockholders Representative or of the Holders of not less than a majority of the outstanding Roche CVRs, whether evidenced in writing or taken at a meeting of the Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent may enter into one or more amendments hereto for the purpose of adding, eliminating or changing any provisions of this Agreement, even if such addition, elimination or change is in any way adverse to the interests of the Holders and/or to the interests of the Stockholders Representative. Any such amendment shall be fully valid even if such amendment is signed only by Buyer and the Rights Agent.

(b) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.2, Buyer shall mail a notice thereof by first-class mail to the Holders at their addresses as they shall appear on the Roche CVR Register, setting forth in general terms the substance of such amendment.

Section 5.3 Execution of Amendments.

Before executing any amendment permitted by this Article V, the Rights Agent shall be entitled to receive, and shall be fully protected in relying upon, an opinion of counsel stating that the execution of such amendment is authorized or permitted by this Agreement, and that all consents, if any, have been obtained in accordance with Section 5.2. The Rights Agent may, but is not obligated to, enter into any such amendment that affects the Rights Agent's own rights, privileges, covenants, immunities, obligations or duties under this Agreement or otherwise.

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Section 5.4 Effect of Amendments.

Upon the execution of any amendment under this Article V, this Agreement shall be modified in accordance therewith, such amendment shall form a part of this Agreement for all purposes and the Stockholders Representative and every Holder shall be bound thereby.

ARTICLE VI

CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 6.1 Buyer May Consolidate, Etc.

(a) Buyer shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

(i) the Person formed by such consolidation or into which Buyer is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of Buyer substantially as an entirety (the *Surviving Person*) shall expressly assume payment (if and to the extent required hereunder) of amounts on all the Roche CVRs and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed; and

(ii) Buyer has delivered to the Rights Agent an Officer's Certificate, stating that such consolidation, merger, conveyance, transfer or lease complies with this Article VI and that all conditions precedent herein provided for relating to such transaction have been complied with.

(b) In the event Buyer conveys, transfers or leases its properties and assets substantially as an entirety in accordance with the terms and conditions of this Section 6.1, Buyer and the Surviving Person shall be jointly and severally liable for the payment of the Roche CVR Payment Amount and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed.

Section 6.2 Successor Substituted.

Upon any consolidation of or merger by Buyer with or into any other Person, or any conveyance, transfer or lease of the properties and assets substantially as an entirety to any Person in accordance with Section 6.1, the Surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, Buyer under this Agreement with the same effect as if the Surviving Person had been named as Buyer herein, and thereafter the predecessor Person shall be relieved of all obligations and covenants under this Agreement and the Roche CVRs.

ARTICLE VII

OTHER PROVISIONS OF GENERAL APPLICATION

Section 7.1 Notices to Rights Agent and Buyer.

Any request, demand, authorization, direction, notice, consent, waiver or other document provided or permitted by this Agreement shall be sufficient for every purpose hereunder if in writing and delivered personally, or sent by email or sent by certified or registered mail (return receipt requested and first-class postage prepaid) or sent by a nationally recognized overnight courier (with proof of service), addressed as follows, and shall be deemed to have been given upon receipt:

(a) if to the Rights Agent, addressed to it at Mellon Investor Services LLC, 400 S. Hope Street, 4th Floor, Los Angeles, CA 90071, Attn: Mark Cano, or at any other address previously furnished in writing to the Stockholders Representative and Buyer by the Rights Agent in accordance with this Section 7.1 and Section 7.2, with a copy to Mellon Investor Services LLC, 480 Washington Boulevard, Jersey City, NJ 07310, Attn: Legal Department; or

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(b) if to Buyer, addressed to it at 10275 Science Center Drive, San Diego, California 92121, email at jhiggins@ligand.com, or at any other address previously furnished in writing to the Rights Agent and the Stockholders Representative by Buyer in accordance with this Section 7.1 and Section 7.2.

Section 7.2 Notice to Holders or Stockholders Representative.

Where this Agreement provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid, to each Holder affected by such event, at his, her or its address as it appears in the Roche CVR Register, not later than the latest date, and not earlier than the earliest date, prescribed for the giving of such notice. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Agreement provides for notice to the Stockholders Representative, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and personally delivered or sent by email or sent by a nationally recognized overnight courier (with proof of service) or mailed, first-class postage prepaid, to the Stockholders Representative at 1042-B N. El Camino Real, Suite 430, Encinitas, CA 92024, email at dfhale@biopharmaventures.com, or at any other address previously furnished in writing to the Rights Agent and Buyer by the Stockholders Representative in accordance with Section 7.1 and this Section 7.2. Notwithstanding anything contained herein to the contrary, the information set forth in any notices delivered by Buyer hereunder related to a Roche CVR Payment Event or an amendment to this Agreement pursuant to Article V hereof and provided solely to the Stockholders Representative (or a summary of such information) shall also be reported by Buyer on a Form 8-K, 10-Q or 10-K of Buyer filed with the SEC.

Section 7.3 Effect of Headings.

The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

Section 7.4 Successors and Assigns.

All covenants and agreements in this Agreement by Buyer shall bind its successors and assigns, whether so expressed or not.

Section 7.5 Benefits of Agreement.

Nothing in this Agreement, express or implied, shall give to any Person (other than the parties hereto, the Holders and their permitted successors and assigns hereunder) any benefit or any legal or equitable right, remedy or claim under this Agreement or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto, the Holders and their permitted successors and assigns. The Holders shall have no rights or remedies hereunder except as expressly set forth herein.

Section 7.6 Governing Law.

This Agreement and the Roche CVRs shall be governed by and construed in accordance with the laws of the State of California without regards to its rules of conflicts of laws; provided, however, that all provisions, regarding the rights, duties, obligations and liabilities of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed entirely within such State.

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Section 7.7 Legal Holidays.

In the event that a Roche CVR Payment Date shall not be a Business Day, then, notwithstanding any provision of this Agreement to the contrary, any payment required to be made in respect of the Roche CVRs on such date need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the Roche CVR Payment Date.

Section 7.8 Severability Clause.

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein; provided, however, that if any such excluded term, provision, covenant or restriction shall adversely affect the rights, immunities, duties or obligations of the Rights Agent, the Rights Agent shall be entitled to resign immediately. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

Section 7.9 Counterparts.

This Agreement may be signed in any number of counterparts (which may be effectively delivered by facsimile or other electronic means), each of which shall be deemed to constitute but one and the same instrument.

Section 7.10 Termination.

This Agreement shall terminate and be of no further force or effect, and the parties hereto shall have no liability hereunder, on the first day after the Outside Date on which no further dispute is possible. A dispute shall be considered possible if an Objection Period is in progress, or if a Section 7.12 process is in progress, or if any payment or other obligation required pursuant to a final determination made in accordance with Section 7.12 has not yet occurred.

Section 7.11 Entire Agreement.

As it relates to the Rights Agent, this Agreement represents the entire understanding of the parties hereto with reference to the Roche CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the Roche CVRs. As it relates to all other parties hereto, this Agreement and the Merger Agreement represent the entire understanding of the parties hereto with reference to the Roche CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the Roche CVRs, except for the Merger Agreement. If and to the extent that any provision of this Agreement is inconsistent or conflicts with the Merger Agreement, this Agreement shall govern and be controlling.

Section 7.12 Negotiation; Arbitration.

(a) Before any arbitration pursuant to Section 7.12(b), Buyer and (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative shall negotiate in good faith for a period of 30 days to resolve any controversy or claim arising out of or relating to this Agreement or the breach thereof.

(b) After expiration of the 30-day period contemplated by Section 7.12(a), such controversy or claim, including any claims for breach of this Agreement, shall be settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the

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arbitrators may be entered in any court having jurisdiction thereof. Buyer and/or (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative may initiate an arbitration for any matter relating to this Agreement. However, in the event of a dispute arising from the delivery of a Notice of Objection, the sole matter to be settled by arbitration shall be whether a Roche CVR Payment Event has occurred on or before the Outside Date or whether the calculation of the Roche CVR Payment Amount is in error, as applicable. The number of arbitrators shall be three. Within 15 days after the commencement of arbitration, each party shall select one person to act as arbitrator, and the two selected shall select a third arbitrator within 15 days of their appointment. If the arbitrators selected by the parties are unable or fail to agree upon the third arbitrator, the third arbitrator shall be selected by the American Arbitration Association. The place of the arbitration shall be San Diego, California. The arbitrators shall be lawyers or retired judges with experience in the life sciences industry and with mergers and acquisitions. Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both parties. Any award payable in favor of the Holders or the Stockholders Representative as a result of arbitration shall be paid by Buyer to the Rights Agent to be distributed to the Holders the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Buyer and Stockholders Representative shall pay in equal halves all fees and expenses of the arbitration forum, including the costs and expenses billed by the arbitrators in connection with the performance of their duties described herein; provided, however, that if the arbitrators rule in favor of Buyer, an amount equal to the half of the arbitrators fees and expenses paid by Buyer shall be offset against the soonest Roche CVR Payment Amount(s), if any, or any payment to be made thereafter under any of the other CVR Agreements, and if the arbitrators rule in favor of the Holders or the Stockholders Representative, an amount equal to the half of the arbitrators fees and expenses paid by the Stockholders Representative shall be paid by Buyer to the Rights Agent to be distributed to the Holders on the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Each party to the arbitration (which, for the avoidance of doubt, shall not include the Rights Agent) shall be responsible for its own attorney fees, expenses and costs of investigation.

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IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

LIGAND PHARMACEUTICALS INCORPORATED

By:
Name:
Title:

METABASIS THERAPEUTICS, INC.

By:
Name:
Title:

MELLON INVESTOR SERVICES LLC, as Rights Agent

By:
Name: Mark Cano
Title: Relationship Manager

DAVID F. HALE, as Stockholders Representative

By:

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Annex C

Form of TR Beta CVR Agreement

CONTINGENT VALUE RIGHTS AGREEMENT*

THIS CONTINGENT VALUE RIGHTS AGREEMENT, dated as of [] (this **Agreement** , is entered into by and among Ligand Pharmaceuticals Incorporated, a Delaware corporation (**Buyer**), Metabasis Therapeutics, Inc., a Delaware corporation (**Target**), David F. Hale, as Stockholders Representative (the **Stockholders Representative**), and Mellon Investor Services LLC, a New Jersey limited liability company, as Rights Agent (the **Rights Agent**) and as initial TR Beta CVR Registrar (as defined herein).

Preamble

Buyer, Moonstone Acquisition, Inc., a Delaware corporation and wholly-owned subsidiary of Buyer (**Sub**), Target and the Stockholders Representative have entered into an Agreement and Plan of Merger dated as of October 26, 2009 (as amended to date, the **Merger Agreement**), pursuant to which Sub will merge with and into Target (the **Merger**), with Target surviving the Merger as a subsidiary of Buyer.

Pursuant to the Merger Agreement, Buyer agreed to create and issue to Target s stockholders of record immediately before the effective time of the Merger, contingent value rights as hereinafter described.

The parties have done all things necessary to make the contingent value rights, when issued pursuant to the Merger Agreement and hereunder, the valid obligations of Buyer and to make this Agreement a valid and binding agreement of Buyer, in accordance with its terms.

NOW, THEREFORE, for and in consideration of the premises and the consummation of the transactions referred to above, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders (as hereinafter defined), as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Definitions.

(a) For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(i) the terms defined in this Article have the meanings assigned to them in this Article, and include the plural as well as the singular;

(ii) all accounting terms used herein and not expressly defined herein shall have the meanings assigned to such terms in accordance with United States generally accepted accounting principles, as in effect on the date hereof;

(iii) the words herein, hereof and hereunder and other words of similar import refer to this Agreement as a whole and not to any particular Article, Section or other subdivision;

* Including amendments made by Amendment to Agreement and Plan of Merger dated as of November 25, 2009. The amendments are to the first paragraph of the Preamble, Section 1.1(b) (the definitions of Landlord Agreement and TR Beta CVR Payment Amount), Section 2.6, Section 2.7(a), Section 2.7(e) (deleted) and Section 7.11.

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(iv) unless the context otherwise requires, words describing the singular number shall include the plural and vice versa, words denoting any gender shall include all genders and words denoting natural Persons shall include corporations, partnerships and other Persons and vice versa; and

(v) all references to including shall be deemed to mean including without limitation.

(b) Capitalized terms used but not otherwise defined herein shall have the meanings ascribed thereto in the Merger Agreement. The following terms shall have the meanings ascribed to them as follows:

Achievement Certificate has the meaning set forth in Section 2.4(a).

Board of Directors means the board of directors of Buyer.

Board Resolution means a copy of a resolution certified by the secretary or an assistant secretary of Buyer to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Rights Agent.

Business Day means any day other than a Saturday, Sunday or a day on which the banks in New York, New Jersey or California are authorized or obligated by law or executive order to close.

Close of Business on any given date shall mean 5:00 P.M., California time, on such date; provided, however, that if such date is not a Business Day it shall mean 5:00 P.M., California time, on the next succeeding Business Day.

Competitor of Buyer has the same meaning as set forth in the Merger Agreement for Competitor of Parent.

Fraction means the quotient of (a) the number of Company Shares outstanding as of the Effective Time plus the number of TR Beta CVRs issued between the Effective Time and the occurrence of the applicable TR Beta CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, minus the number of Dissenting Shares (determined as of the occurrence of the applicable TR Beta CVR Payment Event), divided by (b) the sum of the number of Company Shares outstanding as of the Effective Time plus the number of TR Beta CVRs issued between the Effective Time and the occurrence of the applicable TR Beta CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.

Fund Distribution Date has the meaning set forth in Section 2.4(g).

Holder means a Person in whose name a TR Beta CVR is registered in the TR Beta CVR Register.

Landlord means ARE-SD Region No. 24, LLC.

Landlord Agreement means the Agreement for Termination of Lease and Voluntary Surrender of Premises dated July 21, 2009 between the Company and the Landlord, including any amendments thereto entered into before the Effective Time.

Non-Achievement Certificate has the meaning set forth in Section 2.4(b).

Notice of Objection has the meaning set forth in Section 2.4(c).

Objection Period has the meaning set forth in Section 2.4(c).

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Officer s Certificate means a certificate signed by the chief executive officer, president, chief financial officer, any vice president, the controller, the treasurer or the secretary, in each case, of Buyer, in his or her capacity as such an officer, and delivered to the Rights Agent.

Outside Date means the later to occur of (a) the 10th anniversary of the date hereof or (b) the last potential TR Beta CVR Payment Date pursuant to a TR Beta Payment Event which occurred before the 10th anniversary of the date hereof; provided, that in the event of a TR Beta Licensing Option Event or a TR Beta Sale Option Event, the Outside Date with respect to the optioned asset shall not occur before the earliest of the exercise, expiration or termination of such option.

Person shall mean any individual, firm, corporation, limited liability company, partnership, trust or other entity, and shall include any successor (by merger or otherwise) thereof or thereto.

Rights Agent means the Rights Agent named in the first paragraph of this Agreement, until a successor Rights Agent shall have become such pursuant to the applicable provisions of this Agreement, and thereafter **Rights Agent** shall mean such successor Rights Agent.

Rights Agent Fees and Expenses means the agreed-upon fees and expenses of the Rights Agent to act in such capacity pursuant to the terms of this Agreement.

Surviving Person has the meaning set forth in Section 6.1(a)(i).

TR Beta CVR Payment Amount means, as applicable, a TR Beta Licensing Option Payment Amount, a TR Beta Sale Option Payment Amount, a TR Beta Licensing Payment Amount or a TR Beta Sale Payment Amount; less in each case (i) 1% (or such lesser percentage as is the maximum permissible pursuant to the following proviso) of such TR Beta Licensing Option Payment Amount, TR Beta Sale Option Payment Amount, TR Beta Licensing Payment Amount or TR Beta Sale Payment Amount, as applicable, which amount shall be contributed to the Stockholders Representative Fund; provided that no such amount shall be contributed to the Stockholders Representative Fund to the extent that the sum of such amount and the amount then held in the Stockholders Representative Fund would exceed \$300,000, (ii) to the extent applicable in respect thereof, any amount payable by Buyer or the Surviving Corporation to the Landlord pursuant to the terms of Section 10 of the Landlord Agreement and (iii) to the extent applicable in respect thereof, any contingent severance payments payable to the employees that were terminated in Target s May 2009 reduction in force.

TR Beta CVR Payment Date means the January 1 or July 1 next following the date (if any and if ever) that a TR Beta CVR Payment Amount is payable by Buyer to the Holders, which date shall be established pursuant to Section 2.4.

TR Beta CVR Payment Event means, as applicable, a TR Beta Licensing Option Event, a TR Beta Licensing Event, a TR Beta Sale Option Event or a TR Beta Sale Event.

TR Beta CVR Register has the meaning set forth in Section 2.3(b).

TR Beta CVR Registrar has the meaning set forth in Section 2.3(b).

TR Beta CVRs means the TR Beta Contingent Value Rights issued by Buyer pursuant to the Merger Agreement and this Agreement.

TR Beta Licensing Event means the licensing by Buyer to any Person (other than to Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from the TR Beta Program.

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TR Beta Licensing Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a TR Beta Licensing Event.

TR Beta Licensing Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Option Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Option Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Option Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Option Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the TR Beta Licensing Option Event (including reasonable attorneys fees and brokers commissions).

TR Beta Licensing Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Licensing Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the TR Beta Licensing Event (including reasonable attorneys fees and brokers commissions).

TR Beta Program means the program conducted before the Merger by Target intended to create a thyroid receptor beta agonist drug for the treatment of hyperlipidemia, and as may be continued after the Merger by Buyer.

TR Beta Sale Event means the consummation of the sale or other similar transfer (that does not qualify as a TR Beta Licensing Event) by Buyer to any Person (other than Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from the TR Beta Program.

TR Beta Sale Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a TR Beta Sale Event.

TR Beta Sale Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Sale Option Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the

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Effective Time and before the Outside Date, in connection with a TR Beta Sale Option Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a TR Beta Sale Option Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Sale Option Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the TR Beta Sale Option Event (including reasonable attorneys fees and brokers commissions).

TR Beta Sale Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Sale Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Sale Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Sale Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a TR Beta Sale Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the TR Beta Sale Event (including reasonable attorneys fees and brokers commissions).

ARTICLE II

CONTINGENT VALUE RIGHTS

Section 2.1 Issuance of TR Beta CVRs; Appointment of Rights Agent.

(a) The TR Beta CVRs shall be issued pursuant to the Merger Agreement at the time and in the manner set forth in the Merger Agreement or pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.

(b) Buyer hereby appoints the Rights Agent to act as rights agent for Buyer in accordance with the express terms and conditions hereinafter set forth in this Agreement (and no implied terms or conditions), and the Rights Agent hereby accepts such appointment.

(c) To the extent permitted by applicable Legal Requirements, it is expressly agreed that in no event shall any Holders (as opposed to the Stockholders Representative) or any former stockholders of Target (as opposed to the Stockholders Representative) have, after the Effective Time, any power or right to commence or join in any Legal Proceeding based on or arising out of this Agreement or the Merger Agreement.

Section 2.2 Transferability.

At the option of a respective holder thereof, the TR Beta CVRs may be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, but only in accordance with Section 2.3 hereof and in compliance with all applicable Legal Requirements.

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Section 2.3 No Certificate; Registration; Registration of Transfer; Change of Address.

- (a) The TR Beta CVRs shall be issued in book-entry form only and shall not be evidenced by a certificate or other instrument.
- (b) The Rights Agent shall keep a register (the *TR Beta CVR Register*) for the registration of TR Beta CVRs. The Rights Agent is hereby initially appointed TR Beta CVR registrar and transfer agent (*TR Beta CVR Registrar*) for the purpose of registering TR Beta CVRs and transfers of TR Beta CVRs as herein provided. Upon any change in the identity of the Rights Agent, the successor Rights Agent shall automatically also become the successor TR Beta CVR Registrar.
- (c) Every request made to transfer a TR Beta CVR must be in writing and accompanied by a written instrument or instruments of transfer and any other documentation requested by Buyer or TR Beta CVR Registrar, in a form reasonably satisfactory to Buyer and the TR Beta CVR Registrar, properly completed and duly executed by the registered Holder or Holders thereof or by the duly appointed legal representative thereof or by a duly authorized attorney, such signature to be guaranteed by a participant in a recognized Signature Guarantee Medallion Program. Upon receipt of such written request and materials, and all other reasonably necessary information, the TR Beta CVR Registrar shall register the transfer of the TR Beta CVRs in the TR Beta CVR Register. All duly transferred TR Beta CVRs registered in the TR Beta CVR Register shall be the valid obligations of Buyer, evidencing the same right and shall entitle the transferee to the same benefits and rights under this Agreement, as those previously held by the transferor. No transfer of a TR Beta CVR shall be valid until registered in the TR Beta CVR Register, and any transfer not duly registered in the TR Beta CVR Register will not be honored by Buyer or the Rights Agent until it is so registered, and then it will be honored only prospectively. Any transfer or assignment of the TR Beta CVRs shall be without charge (other than the cost of any tax or charge that may be payable in respect of such transfer or assignment, which shall be the responsibility of the transferor) to the Holder. The Rights Agent shall have no duty or obligation under any Section of this Agreement that requires the payment of taxes or charges unless and until it is satisfied that such taxes and/or charges have been or will be paid.
- (d) A Holder may make a written request to the TR Beta CVR Registrar to change such Holder's address of record in the TR Beta CVR Register. The written request must be duly executed by the Holder and conform to such other reasonable requirements as the Rights Agent may from time to time establish. Upon receipt of such proper written request, the TR Beta CVR Registrar shall promptly record the change of address in the TR Beta CVR Register.
- (e) Upon reasonable written request of the Stockholders' Representative, the Rights Agent shall (at the Stockholders' Representative's expense) promptly provide a copy of the TR Beta CVR Register to the Stockholders' Representative.

Section 2.4 Payment Procedures.

- (a) Promptly following the occurrence of a TR Beta CVR Payment Event, but in no event later than five Business Days after the occurrence of a TR Beta CVR Payment Event, Buyer shall deliver to the Rights Agent and the Stockholders' Representative a certificate (the *Achievement Certificate*), certifying that the Holders are entitled to receive a TR Beta CVR Payment Amount (and setting forth the calculation of such TR Beta CVR Payment Amount), and shall also deliver to the Rights Agent the indicated TR Beta CVR Payment Amount in cash. Until such Achievement Certificate is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that a TR Beta CVR Payment Event has not occurred. No transaction described in Section 6.1(a) hereof shall give the Holders the right to receive a TR Beta CVR Payment Amount. Such cash amount deposited with the Rights Agent shall, pending its disbursement to such holders, be invested by the Rights Agent in (i) direct obligations of the United States of America, (ii) obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest, or (iii) money market funds investing solely in a combination of the foregoing. Any interest and other income

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resulting from such investments shall be applied first to the satisfaction of the Rights Agent Fees and Expenses, and any remainder (the **Remainder**) shall be paid to the Holders as set forth in Section 2.4(e) below. The Rights Agent must receive federal or other immediately available funds before 1:00 p.m., Eastern Time, on the funding date in order for such funds to be so invested on such date. Funds received after such time on the funding date will not be so invested until the following Business Day. Except as expressly provided above, the Rights Agent will not be obligated to calculate or pay interest to any Holder or any other party.

(b) If no TR Beta CVR Payment Event has occurred on or before the Outside Date, then, within five Business Days after the Outside Date, Buyer shall deliver to the Rights Agent and the Stockholders Representative a certificate, stating that the TR Beta CVR Payment Event did not occur. Such certificate is herein referred to as the **Non-Achievement Certificate**. Until such Non-Achievement Certificate is received by the Rights Agent, the Rights Agent shall have no duties or obligations with respect to the Outside Date, and the Rights Agent shall have no duties or obligations to monitor or determine the Outside Date.

(c) Subject to Section 5.16(a) of the Merger Agreement, within 45 calendar days after delivery by Buyer of a Non-Achievement Certificate or Achievement Certificate (the **Objection Period**), the Stockholders Representative may deliver a written notice to Buyer (with a copy to the Rights Agent) specifying that the Stockholders Representative objects to (i) the determination of Buyer that no TR Beta CVR Payment Event occurred on or before the Outside Date or (ii) the calculation of the TR Beta CVR Payment Amount, as applicable (a **Notice of Objection**), and stating the reason upon which the Stockholders Representative has determined that (A) the TR Beta CVR Payment Event has occurred on or before the Outside Date or (B) the calculation of the TR Beta CVR Payment Amount is in error, as applicable. Any dispute arising from a Notice of Objection shall be resolved in accordance with the procedure set forth in Section 7.12, which decision shall be binding on the parties hereto and every Holder.

(d) If a Notice of Objection with respect to a Non-Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to receive the TR Beta CVR Payment Amount, and Buyer and the Rights Agent shall have no further obligations with respect to the TR Beta CVR Payment Amount. If a Notice of Objection with respect to an Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to assert that the calculation of the TR Beta CVR Payment Amount is in error.

(e) If Buyer delivers an Achievement Certificate to the Rights Agent and the Stockholders Representative or if the TR Beta CVR Payment Amount is determined to be payable pursuant to Section 2.4(c) above, Buyer shall establish a TR Beta CVR Payment Date on the January 1 or July 1 which next follows the date of the Achievement Certificate or the date of final determination pursuant to Section 2.4(c) above, as applicable, and deliver written notice to the Rights Agent of such determination at least five (5) Business Days before such date. Until such notice is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that the TR Beta CVR Payment Date has not occurred. The Rights Agent shall have no duty or obligation to establish any payment amount or payment date with respect to the TR Beta CVR Payment Date. Upon receipt of such written notice and all other necessary information, the Rights Agent will, on such TR Beta CVR Payment Date, distribute the TR Beta CVR Payment Amount and the Remainder to the Holders (each Holder being entitled to receive its *pro rata* share of the TR Beta CVR Payment Amount and the Remainder based on the number of TR Beta CVRs held (as of the third Business Day before the TR Beta CVR Payment Date) by such Holder as reflected on the TR Beta CVR Register) by check mailed to the address of each such respective Holder as then reflected in the TR Beta CVR Register.

(f) Buyer shall be entitled to deduct and withhold, or cause to be deducted or withheld, from each TR Beta CVR Payment Amount otherwise payable pursuant to this Agreement, such amounts as Buyer or the applicable subsidiary of Buyer is required to deduct and withhold with respect to the making of such payment under the Internal Revenue Code, or any provision of state, local or foreign tax law. To the extent that amounts are so

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withheld or paid over to or deposited with the relevant governmental entity, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Holder in respect of which such deduction and withholding was made.

(g) On such date following the Outside Date as the holders of at least 20% of the outstanding General CVRs shall request via two Business Day prior written notice to the Stockholders Representative, the Stockholders Representative shall deliver to the Rights Agent in cash any amount remaining available in the Stockholders Representative Fund together with written instructions regarding the distribution of such amount (including the names and addresses of the applicable Holders and the breakdown of amounts to be distributed), and the Rights Agent will, within five Business Days of receipt of such instructions and amount (such date the **Fund Distribution Date**), distribute such amount in accordance with such instructions to the Holders of the General CVRs, the TR Beta CVRs, the Glucagon CVRs and the Roche CVRs (each Holder being entitled to receive its *pro rata* share of such amount based on the number of General CVRs, TR Beta CVRs, Glucagon CVRs and Roche CVRs held (as of the Fund Distribution Date) by such Holder as reflected in the General CVR Register, the TR Beta CVR Register, the Glucagon CVR Register and the Roche CVR Register (as defined herein and in the General CVR Agreement, the Glucagon CVR Agreement and the Roche CVR Agreement) by check mailed to the address of each such respective Holder as reflected in the General CVR Register, the TR Beta CVR Register, the Glucagon CVR Register and the Roche CVR Register as of the Close of Business on the last Business Day before the Fund Distribution Date. Until such written instructions are received by the Rights Agent, the Rights Agent shall not be obligated to take any action with respect to this paragraph. After the Fund Distribution Date, the Stockholders Representative shall be relieved of any and all duties and obligations under the Merger Agreement or any of the CVR Agreements.

(h) Subject to prior execution and delivery by the Stockholders Representative to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, Buyer shall promptly furnish to the Stockholders Representative all information and documentation in connection with this Agreement and the TR Beta CVRs that the Stockholders Representative may reasonably request in connection with the determination of whether a TR Beta CVR Payment Event has occurred or whether the calculation of a TR Beta CVR Payment Amount is in error, as applicable. Subject to prior execution and delivery by the applicable Holders to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, the Stockholders Representative may forward any information and documentation it receives to the Holders who request such information, but the Stockholders Representative covenants and agrees that in no event shall the Stockholders Representative provide any such information or documentation to any Holder who (i) is a Competitor of Buyer or (ii) holds fewer than 1% of the total number of TR Beta CVRs.

Section 2.5 No Voting, Dividends or Interest; No Equity or Ownership Interest in Buyer.

(a) The TR Beta CVRs shall not have any voting or dividend rights, and interest shall not accrue on any amounts payable on the TR Beta CVRs to any Holder.

(b) The TR Beta CVRs shall not represent any equity or ownership interest in Buyer (or in any constituent company to the Merger) or in any drug development program or Intellectual Property or other asset. The rights of the holders of TR Beta CVRs are limited to those expressly set forth in this Agreement, and such holders' sole right to receive property hereunder is the right to receive cash from Buyer through the Rights Agent in accordance with the terms hereof.

Section 2.6 Sole Discretion and Decision Making Authority; No Fiduciary Duty.

Notwithstanding anything contained herein to the contrary, Buyer shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, (i) over any continued operation of, development of or investment in the TR Beta Program, (ii) over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar transfer agreement

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and/or agreement for the grant of an option to enter into any such transaction with respect to a drug candidate or technology or Intellectual Property from the TR Beta Program, and upon what terms and conditions, and (iii) over resolution of any third party claims relating to Contingent Payments.

Section 2.7 Satisfaction of Contingent Payments. Notwithstanding anything herein to the contrary:

(a) It is understood that upon the occurrence of certain payment events under this Agreement and the other CVR Agreements, the Landlord may be entitled to payments pursuant to the terms of Section 10 of the Landlord Agreement and the employees that were terminated in Target's May 2009 reduction in force may be entitled to contingent severance payments pursuant to their respective severance arrangements (together, and including any payments to resolve claims arising in connection therewith, the *Contingent Payments*).

(b) In general, such Contingent Payments are to be satisfied first from amounts otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event, but in some instances the full amount payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be less than the Contingent Payments owing in respect of such payment event.

(c) In each case described in Section 2.7(b) above, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be paid by Buyer directly to the beneficiaries of the Contingent Payments rather than to or for the benefit of the holders of the CVRs under the applicable CVR Agreement, and the remainder of the Contingent Payments owing in respect of such payment event (the *Excess*) shall be paid by Buyer directly to the beneficiaries of the Contingent Payments.

(d) If an Excess is paid by Buyer pursuant to Section 2.7(c) of this Agreement or of any of the other CVR Agreements, then upon the next payment event under this Agreement or under any of the other CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid), Buyer shall withhold from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event, and shall keep for Buyer's own account to reimburse Buyer for having paid the Excess, an amount equal to 100% of the Excess (or, if less, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event). If Buyer is not thereby reimbursed for the entire Excess, the shortfall shall be rolled forward to be satisfied in the same manner by withholding from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of the next-to-occur payment event under any one of the CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid or in connection with which the Excess was partially satisfied).

ARTICLE III

THE RIGHTS AGENT

Section 3.1 Certain Duties and Responsibilities.

The Rights Agent shall be authorized and protected and shall not have any liability for, or in respect of any actions taken, suffered or omitted to be taken by it in connection with its acceptance and administration of this Agreement and the exercise and performance of its duties hereunder, except to the extent of its own willful misconduct, bad faith or gross negligence (each as determined by a final, non-appealable judgment of a court of competent jurisdiction). No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers.

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Section 3.2 Certain Rights of Rights Agent.

The Rights Agent undertakes to perform such duties and only such duties as are specifically set forth in this Agreement, and no implied covenants or obligations shall be read into this Agreement against the Rights Agent. In addition:

(a) the Rights Agent may rely and shall be authorized and protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, power of attorney, endorsement, affidavit, letter or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties. The Rights Agent shall not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder but as to which no notice was provided, and the Rights Agent shall be fully protected and shall incur no liability for failing to take any action in connection therewith unless and until it has received such notice;

(b) whenever the Rights Agent shall deem it necessary or desirable that any fact or matter be proved or established by Buyer before taking, suffering or omitting to take any action hereunder, the Rights Agent may, in the absence of willful misconduct, bad faith or gross negligence on its part (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), request and rely upon an Officer's Certificate from Buyer with respect to such fact or matter; and such certificate shall be full and complete authorization and protection to the Rights Agent and the Rights Agent shall incur no liability for or in respect of any action taken, suffered or omitted to be taken by it under the provisions of this Agreement in reliance upon such certificate. The Rights Agent shall be fully authorized and protected in relying upon the most recent instructions received from Buyer. In the event the Rights Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Rights Agent hereunder, the Rights Agent, may, in its sole discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to Buyer or any other person or entity for refraining from taking such action, unless the Rights Agent receives written instructions from Buyer that eliminates such ambiguity or uncertainty to the satisfaction of the Rights Agent;

(c) the Rights Agent may engage and consult with counsel of its selection (who may be legal counsel for Buyer and/or an employee of the Rights Agent) and the advice of such counsel or any opinion of counsel shall be full and complete authorization and protection to the Rights Agent in respect of any action taken, suffered or omitted to be taken by it hereunder in reliance thereon in the absence of willful misconduct, bad faith or gross negligence on the part of the Rights Agent (as determined by a final, non-appealable judgment of a court of competent jurisdiction);

(d) in the event of arbitration, the Rights Agent may engage and consult with tax experts, valuation firms and other experts and third parties that it, in its sole and absolute discretion, deems appropriate or necessary to enable it to discharge its duties hereunder;

(e) the permissive rights of the Rights Agent to do things enumerated in this Agreement shall not be construed as a duty;

(f) the Rights Agent shall not be required to give any note or surety in respect of the execution of such powers or otherwise in respect of the premises;

(g) Buyer agrees to indemnify the Rights Agent for, and hold the Rights Agent harmless against, any loss, liability, damage, judgment, fine, penalty, claim, demand, suit, settlement, cost or expense (including, without limitation, the fees and expenses of legal counsel), incurred without willful misconduct, bad faith or gross negligence on the part of the Rights Agent (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), for any action taken, suffered or omitted to be taken by the Rights Agent in connection with the acceptance and administration of this Agreement, or the exercise or performance of its duties hereunder, including without limitation, the costs and expenses of defending against any claim of liability hereunder, directly or indirectly. The costs and expenses incurred in enforcing this right of indemnification shall be paid by Buyer. The provisions of this Article 3 shall survive the termination of this Agreement, the payment of any distributions made pursuant to this Agreement, and the resignation,

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replacement or removal of the Rights Agent hereunder, including, without limitation, the costs and expenses of defending a claim of liability hereunder;

(h) Except as paid pursuant to Section 2.4(a) of this Agreement, Buyer agrees to pay the Rights Agent Fees and Expenses in connection with this Agreement, as set forth on Schedule 1 hereto, and further including reimbursement of the Rights Agent for all taxes and charges, reasonable expenses and other charges of any kind and nature incurred by the Rights Agent in the execution of this Agreement (other than taxes measured by the Rights Agent's net income) and reimbursement for all reasonable and necessary out-of-pocket expenses (including reasonable fees and expenses of the Rights Agent's counsel and agent) paid or incurred by it in connection with the preparation, negotiation, delivery, amendment, administration and execution by the Rights Agent of this Agreement and its duties hereunder;

(i) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by Buyer only;

(j) The Rights Agent shall not have any liability for or be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof; nor shall it be responsible for any breach by Buyer of any covenant or failure by Buyer to satisfy conditions contained in this Agreement;

(k) Buyer agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of its duties under this Agreement;

(l) The Rights Agent and any stockholder, affiliate, director, officer, employee or agent of the Rights Agent may buy, sell or deal in any of the Rights or other securities of Buyer or become pecuniarily interested in any transaction in which Buyer may be interested, or contract with or lend money to Buyer or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent or any stockholder, affiliate, director, officer, employee or agent from acting in any other capacity for Buyer or for any other Person; and

(m) The Rights Agent shall not be subject to, nor be required to comply with, or determine if any person or entity has complied with, the Merger Agreement or any other agreement between or among any of Buyer, Target, Stockholders' Representative or any other parties hereto, even though reference thereto may be made in this Agreement, or to comply with any notice, instruction, direction, request or other communication, paper or document other than as expressly set forth in this Agreement.

Section 3.3 Resignation and Removal; Appointment of Successor.

(a) The Rights Agent may resign and be discharged from its duties at any time by giving written notice thereof to Buyer and the Stockholders' Representative specifying a date when such resignation shall take effect, which notice shall be sent at least 30 days before the date so specified.

(b) If the Rights Agent shall resign, be removed or become incapable of acting, Buyer, by way of a Board Resolution, shall promptly appoint a qualified successor Rights Agent who may (but need not) be a Holder but shall not be an officer of Buyer. The successor Rights Agent so appointed shall, forthwith upon its acceptance of such appointment in accordance with this Section 3.3(b), become the successor Rights Agent.

(c) Buyer shall give notice to the Stockholders' Representative of each resignation and each removal of a Rights Agent and each appointment of a successor Rights Agent. Such notice shall include the name and address of the successor Rights Agent. If Buyer fails to send such notice within ten days after acceptance of appointment by a successor Rights Agent, the successor Rights Agent shall cause such notice to be mailed at the expense of Buyer.

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Section 3.4 Acceptance of Appointment by Successor.

Every successor Rights Agent appointed hereunder shall execute, acknowledge and deliver to Buyer, the Stockholders Representative and the retiring Rights Agent an instrument accepting such appointment and a counterpart of this Agreement, and thereupon such successor Rights Agent, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Rights Agent; provided, that upon the request of Buyer, the Stockholders Representative or the successor Rights Agent, such retiring Rights Agent shall execute and deliver an instrument transferring to such successor Rights Agent all the rights, powers and trusts of the retiring Rights Agent and shall cooperate in the transfer of all relevant data, including the TR Beta CVR Register, to the successor Rights Agent.

ARTICLE IV

COVENANTS

Section 4.1 List of Holders.

Buyer shall furnish or cause to be furnished to the Rights Agent in such form as Buyer receives from its transfer agent (or other agent performing similar services for Buyer), the names, addresses and TR Beta CVR holdings of the Holders, within five Business Days after the effective time of the Merger. Buyer shall furnish or cause to be furnished supplementally to the Rights Agent the names, addresses and TR Beta CVR holdings of any persons acquiring TR Beta CVRs upon the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, forthwith after each such exercise.

Section 4.2 Payment of TR Beta CVR Payment Amount.

Buyer shall duly and promptly pay the TR Beta CVR Payment Amount, if any, in immediately available funds, to the Rights Agent to be distributed to the Holders in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. The Rights Agent shall have no liability of any kind, and shall not be obligated to make any payments, unless and until it receives the TR Beta CVR Payment Amount from Buyer.

Section 4.3 Assignments.

Buyer shall not, in whole or in part, assign any of its obligations under this Agreement other than in accordance with the terms of Section 6.1 hereof.

Section 4.4 Availability of Information.

Buyer will comply with all applicable periodic public information reporting requirements of the SEC to which it may from time to time be subject. Buyer will provide to the Rights Agent all information in connection with this Agreement and the TR Beta CVRs that the Rights Agent may reasonably request.

ARTICLE V

AMENDMENTS

Section 5.1 Amendments Without Consent of Stockholders Representative/ Holders.

(a) Without the consent of the Stockholders Representative or any Holders or the Rights Agent, Buyer, when authorized by a Board Resolution, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person to Buyer and the assumption by any such successor of the covenants of Buyer herein in a transaction contemplated by Section 6.1 hereof; or

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(ii) to evidence the termination of the TR Beta CVR Registrar and the succession of another Person as a successor TR Beta CVR Registrar and the assumption by any successor of the obligations of the TR Beta CVR Registrar herein.

(b) Without the consent of the Stockholders Representative or any Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent, in the Rights Agent's sole and absolute discretion, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person as a successor Rights Agent and the assumption by any successor of the covenants and obligations of the Rights Agent herein;

(ii) to add to the covenants of Buyer such further covenants, restrictions, conditions or provisions as the Board of Directors shall consider to be for the protection of the Holders; provided, that in each case, such provisions shall not adversely affect the interests of the Holders;

(iii) to cure any ambiguity, to correct or supplement any provision herein that may be defective or inconsistent with any other provision herein, or to make any other provisions with respect to matters or questions arising under this Agreement; provided, that in each case, such provisions shall not adversely affect the interests of the Holders; or

(iv) to add, eliminate or change any provision of this Agreement unless such addition, elimination or change is adverse to the interests of the Holders and/or to the interests of the Stockholders Representative.

(c) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.1, Buyer shall so notify the Stockholders Representative in writing.

Section 5.2 Amendments With Consent of Stockholders Representative or Holders.

(a) Subject to Section 5.1 (which amendments pursuant to Section 5.1 may be made without the consent of the Holders), with the consent of the Stockholders Representative or of the Holders of not less than a majority of the outstanding TR Beta CVRs, whether evidenced in writing or taken at a meeting of the Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent may enter into one or more amendments hereto for the purpose of adding, eliminating or changing any provisions of this Agreement, even if such addition, elimination or change is in any way adverse to the interests of the Holders and/or to the interests of the Stockholders Representative. Any such amendment shall be fully valid even if such amendment is signed only by Buyer and the Rights Agent.

(b) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.2, Buyer shall mail a notice thereof by first-class mail to the Holders at their addresses as they shall appear on the TR Beta CVR Register, setting forth in general terms the substance of such amendment.

Section 5.3 Execution of Amendments.

Before executing any amendment permitted by this Article V, the Rights Agent shall be entitled to receive, and shall be fully protected in relying upon, an opinion of counsel stating that the execution of such amendment is authorized or permitted by this Agreement, and that all consents, if any, have been obtained in accordance with Section 5.2. The Rights Agent may, but is not obligated to, enter into any such amendment that affects the Rights Agent's own rights, privileges, covenants, immunities, obligations or duties under this Agreement or otherwise.

Section 5.4 Effect of Amendments.

Upon the execution of any amendment under this Article V, this Agreement shall be modified in accordance therewith, such amendment shall form a part of this Agreement for all purposes and the Stockholders Representative and every Holder shall be bound thereby.

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ARTICLE VI

CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 6.1 Buyer May Consolidate, Etc.

(a) Buyer shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

(i) the Person formed by such consolidation or into which Buyer is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of Buyer substantially as an entirety (the *Surviving Person*) shall expressly assume payment (if and to the extent required hereunder) of amounts on all the TR Beta CVRs and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed; and

(ii) Buyer has delivered to the Rights Agent an Officer's Certificate, stating that such consolidation, merger, conveyance, transfer or lease complies with this Article VI and that all conditions precedent herein provided for relating to such transaction have been complied with.

(b) In the event Buyer conveys, transfers or leases its properties and assets substantially as an entirety in accordance with the terms and conditions of this Section 6.1, Buyer and the Surviving Person shall be jointly and severally liable for the payment of the TR Beta CVR Payment Amount and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed.

Section 6.2 Successor Substituted.

Upon any consolidation of or merger by Buyer with or into any other Person, or any conveyance, transfer or lease of the properties and assets substantially as an entirety to any Person in accordance with Section 6.1, the Surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, Buyer under this Agreement with the same effect as if the Surviving Person had been named as Buyer herein, and thereafter the predecessor Person shall be relieved of all obligations and covenants under this Agreement and the TR Beta CVRs.

ARTICLE VII

OTHER PROVISIONS OF GENERAL APPLICATION

Section 7.1 Notices to Rights Agent and Buyer.

Any request, demand, authorization, direction, notice, consent, waiver or other document provided or permitted by this Agreement shall be sufficient for every purpose hereunder if in writing and delivered personally, or sent by email or sent by certified or registered mail (return receipt requested and first-class postage prepaid) or sent by a nationally recognized overnight courier (with proof of service), addressed as follows, and shall be deemed to have been given upon receipt:

(a) if to the Rights Agent, addressed to it at Mellon Investor Services LLC, 400 S. Hope Street, 4th Floor, Los Angeles, CA 90071, Attn: Mark Cano, or at any other address previously furnished in writing to the Stockholders' Representative and Buyer by the Rights Agent in accordance with this Section 7.1 and Section 7.2, with a copy to Mellon Investor Services LLC, 480 Washington Boulevard, Jersey City, NJ 07310, Attn: Legal Department; or

(b) if to Buyer, addressed to it at 10275 Science Center Drive, San Diego, California 92121, email at jhiggins@ligand.com, or at any other address previously furnished in writing to the Rights Agent and the Stockholders' Representative by Buyer in accordance with this Section 7.1 and Section 7.2.

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Section 7.2 Notice to Holders or Stockholders Representative.

Where this Agreement provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid, to each Holder affected by such event, at his, her or its address as it appears in the TR Beta CVR Register, not later than the latest date, and not earlier than the earliest date, prescribed for the giving of such notice. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Agreement provides for notice to the Stockholders Representative, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and personally delivered or sent by email or sent by a nationally recognized overnight courier (with proof of service) or mailed, first-class postage prepaid, to the Stockholders Representative at 1042-B N. El Camino Real, Suite 430, Encinitas, CA 92024, email at dfhale@biopharmaventures.com, or at any other address previously furnished in writing to the Rights Agent and Buyer by the Stockholders Representative in accordance with Section 7.1 and this Section 7.2. Notwithstanding anything contained herein to the contrary, the information set forth in any notices delivered by Buyer hereunder related to a TR Beta CVR Payment Event or an amendment to this Agreement pursuant to Article V hereof and provided solely to the Stockholders Representative (or a summary of such information) shall also be reported by Buyer on a Form 8-K, 10-Q or 10-K of Buyer filed with the SEC.

Section 7.3 Effect of Headings.

The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

Section 7.4 Successors and Assigns.

All covenants and agreements in this Agreement by Buyer shall bind its successors and assigns, whether so expressed or not.

Section 7.5 Benefits of Agreement.

Nothing in this Agreement, express or implied, shall give to any Person (other than the parties hereto, the Holders and their permitted successors and assigns hereunder) any benefit or any legal or equitable right, remedy or claim under this Agreement or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto, the Holders and their permitted successors and assigns. The Holders shall have no rights or remedies hereunder except as expressly set forth herein.

Section 7.6 Governing Law.

This Agreement and the TR Beta CVRs shall be governed by and construed in accordance with the laws of the State of California without regards to its rules of conflicts of laws; *provided, however*, that all provisions, regarding the rights, duties, obligations and liabilities of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed entirely within such State.

Section 7.7 Legal Holidays.

In the event that a TR Beta CVR Payment Date shall not be a Business Day, then, notwithstanding any provision of this Agreement to the contrary, any payment required to be made in respect of the TR Beta CVRs on such date need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the TR Beta CVR Payment Date.

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Section 7.8 Severability Clause.

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein; *provided, however*, that if any such excluded term, provision, covenant or restriction shall adversely affect the rights, immunities, duties or obligations of the Rights Agent, the Rights Agent shall be entitled to resign immediately. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

Section 7.9 Counterparts.

This Agreement may be signed in any number of counterparts (which may be effectively delivered by facsimile or other electronic means), each of which shall be deemed to constitute but one and the same instrument.

Section 7.10 Termination.

This Agreement shall terminate and be of no further force or effect, and the parties hereto shall have no liability hereunder, on the first day after the Outside Date on which no further dispute is possible. A dispute shall be considered possible if an Objection Period is in progress, or if a Section 7.12 process is in progress, or if any payment or other obligation required pursuant to a final determination made in accordance with Section 7.12 has not yet occurred.

Section 7.11 Entire Agreement.

As it relates to the Rights Agent, this Agreement represents the entire understanding of the parties hereto with reference to the TR Beta CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the TR Beta CVRs. As it relates to all other parties hereto, this Agreement and the Merger Agreement represent the entire understanding of the parties hereto with reference to the TR Beta CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the TR Beta CVRs, except for the Merger Agreement. If and to the extent that any provision of this Agreement is inconsistent or conflicts with the Merger Agreement, this Agreement shall govern and be controlling.

Section 7.12 Negotiation; Arbitration.

(a) Before any arbitration pursuant to Section 7.12(b), Buyer and (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative shall negotiate in good faith for a period of 30 days to resolve any controversy or claim arising out of or relating to this Agreement or the breach thereof.

(b) After expiration of the 30-day period contemplated by Section 7.12(a), such controversy or claim, including any claims for breach of this Agreement, shall be settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. Buyer and/or (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative may initiate an arbitration for any matter relating to this Agreement. However, in the event of a dispute arising from the delivery of a Notice of Objection, the sole matter to be settled by arbitration shall be whether a TR Beta CVR Payment Event has occurred on or before the Outside Date or whether the calculation of the TR Beta CVR Payment Amount is in error, as applicable. The number of arbitrators shall be three. Within 15 days after the commencement of arbitration, each party shall

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select one person to act as arbitrator, and the two selected shall select a third arbitrator within 15 days of their appointment. If the arbitrators selected by the parties are unable or fail to agree upon the third arbitrator, the third arbitrator shall be selected by the American Arbitration Association. The place of the arbitration shall be San Diego, California. The arbitrators shall be lawyers or retired judges with experience in the life sciences industry and with mergers and acquisitions. Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both parties. Any award payable in favor of the Holders or the Stockholders Representative as a result of arbitration shall be paid by Buyer to the Rights Agent to be distributed to the Holders the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Buyer and Stockholders Representative shall pay in equal halves all fees and expenses of the arbitration forum, including the costs and expenses billed by the arbitrators in connection with the performance of their duties described herein; provided, however, that if the arbitrators rule in favor of Buyer, an amount equal to the half of the arbitrators fees and expenses paid by Buyer shall be offset against the soonest TR Beta CVR Payment Amount(s), if any, or any payment to be made thereafter under any of the other CVR Agreements, and if the arbitrators rule in favor of the Holders or the Stockholders Representative, an amount equal to the half of the arbitrators fees and expenses paid by the Stockholders Representative shall be paid by Buyer to the Rights Agent to be distributed to the Holders on the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Each party to the arbitration (which, for the avoidance of doubt, shall not include the Rights Agent) shall be responsible for its own attorney fees, expenses and costs of investigation.

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IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

LIGAND PHARMACEUTICALS INCORPORATED

By:
Name:
Title:

METABASIS THERAPEUTICS, INC.

By:
Name:
Title:

MELLON INVESTOR SERVICES LLC, as Rights Agent

By:
Name: Mark Cano
Title: Relationship Manager

DAVID F. HALE, as Stockholders Representative

By:

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Annex D

Form of Glucagon CVR Agreement

CONTINGENT VALUE RIGHTS AGREEMENT*

THIS CONTINGENT VALUE RIGHTS AGREEMENT, dated as of [] (this **Agreement** , is entered into by and among Ligand Pharmaceuticals Incorporated, a Delaware corporation (**Buyer**), Metabasis Therapeutics, Inc., a Delaware corporation (**Target**), David F. Hale, as Stockholders Representative (the **Stockholders Representative**), and Mellon Investor Services LLC, a New Jersey limited liability company, as Rights Agent (the **Rights Agent**) and as initial Glucagon CVR Registrar (as defined herein).

Preamble

Buyer, Moonstone Acquisition, Inc., a Delaware corporation and wholly-owned subsidiary of Buyer (**Sub**), Target and the Stockholders Representative have entered into an Agreement and Plan of Merger dated as of October 26, 2009 (as amended to date, the **Merger Agreement**), pursuant to which Sub will merge with and into Target (the **Merger**), with Target surviving the Merger as a subsidiary of Buyer.

Pursuant to the Merger Agreement, Buyer agreed to create and issue to Target s stockholders of record immediately before the effective time of the Merger, contingent value rights as hereinafter described.

The parties have done all things necessary to make the contingent value rights, when issued pursuant to the Merger Agreement and hereunder, the valid obligations of Buyer and to make this Agreement a valid and binding agreement of Buyer, in accordance with its terms.

NOW, THEREFORE, for and in consideration of the premises and the consummation of the transactions referred to above, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders (as hereinafter defined), as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Definitions.

(a) For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(i) the terms defined in this Article have the meanings assigned to them in this Article, and include the plural as well as the singular;

(ii) all accounting terms used herein and not expressly defined herein shall have the meanings assigned to such terms in accordance with United States generally accepted accounting principles, as in effect on the date hereof;

(iii) the words herein, hereof and hereunder and other words of similar import refer to this Agreement as a whole and not to any particular Article, Section or other subdivision;

* Including amendments made by Amendment to Agreement and Plan of Merger dated as of November 25, 2009. The amendments are to the first paragraph of the Preamble, Section 1.1(b) (the definitions of Landlord Agreement and Glucagon CVR Payment Amount), Section 2.6, Section 2.7(a), Section 2.7(e) (deleted) and Section 7.11.

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(iv) unless the context otherwise requires, words describing the singular number shall include the plural and vice versa, words denoting any gender shall include all genders and words denoting natural Persons shall include corporations, partnerships and other Persons and vice versa; and

(v) all references to including shall be deemed to mean including without limitation.

(b) Capitalized terms used but not otherwise defined herein shall have the meanings ascribed thereto in the Merger Agreement. The following terms shall have the meanings ascribed to them as follows:

Achievement Certificate has the meaning set forth in Section 2.4(a).

Board of Directors means the board of directors of Buyer.

Board Resolution means a copy of a resolution certified by the secretary or an assistant secretary of Buyer to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Rights Agent.

Business Day means any day other than a Saturday, Sunday or a day on which the banks in New York, New Jersey or California are authorized or obligated by law or executive order to close.

Close of Business on any given date shall mean 5:00 P.M., California time, on such date; provided, however, that if such date is not a Business Day it shall mean 5:00 P.M., California time, on the next succeeding Business Day.

Competitor of Buyer has the same meaning as set forth in the Merger Agreement for Competitor of Parent.

Fraction means the quotient of (a) the number of Company Shares outstanding as of the Effective Time plus the number of Glucagon CVRs issued between the Effective Time and the occurrence of the applicable Glucagon CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, minus the number of Dissenting Shares (determined as of the occurrence of the applicable Glucagon CVR Payment Event), divided by (b) the sum of the number of Company Shares outstanding as of the Effective Time plus the number of Glucagon CVRs issued between the Effective Time and the occurrence of the applicable Glucagon CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.

Fund Distribution Date has the meaning set forth in Section 2.4(g).

Glucagon CVR Payment Amount means, as applicable, a Glucagon Licensing Option Payment Amount, a Glucagon Sale Option Payment Amount, a Glucagon Licensing Payment Amount or a Glucagon Sale Payment Amount; less in each case (i) 1% (or such lesser percentage as is the maximum permissible pursuant to the following proviso) of such Glucagon Licensing Option Payment Amount, Glucagon Sale Option Payment Amount, Glucagon Licensing Payment Amount or Glucagon Sale Payment Amount, as applicable, which amount shall be contributed to the Stockholders Representative Fund; provided that no such amount shall be contributed to the Stockholders Representative Fund to the extent that the sum of such amount and the amount then held in the Stockholders Representative Fund would exceed \$300,000, (ii) to the extent applicable in respect thereof, any amount payable by Buyer or the Surviving Corporation to the Landlord pursuant to the terms of Section 10 of the Landlord Agreement and (iii) to the extent applicable in respect thereof, any contingent severance payments payable to the employees that were terminated in Target's May 2009 reduction in force.

Glucagon CVR Payment Date means the January 1 or July 1 next following the date (if any and if ever) that a Glucagon CVR Payment Amount is payable by Buyer to the Holders, which date shall be established pursuant to Section 2.4.

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Glucagon CVR Payment Event means, as applicable, a Glucagon Licensing Option Event, a Glucagon Licensing Event, a Glucagon Sale Option Event or a Glucagon Sale Event.

Glucagon CVR Register has the meaning set forth in Section 2.3(b).

Glucagon CVR Registrar has the meaning set forth in Section 2.3(b).

Glucagon CVRs means the Glucagon Contingent Value Rights issued by Buyer pursuant to the Merger Agreement and this Agreement.

Glucagon Licensing Event means the licensing by Buyer to any Person (other than to Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from the Glucagon Program.

Glucagon Licensing Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a Glucagon Licensing Event.

Glucagon Licensing Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Option Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Option Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Option Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Option Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the Glucagon Licensing Option Event (including reasonable attorneys fees and brokers commissions).

Glucagon Licensing Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Licensing Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the Glucagon Licensing Event (including reasonable attorneys fees and brokers commissions).

Glucagon Program means the program conducted before the Merger by Target intended to create a glucagon receptor antagonist drug for the treatment of diabetes, and as may be continued after the Merger by Buyer.

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Glucagon Sale Event means the consummation of the sale or other similar transfer (that does not qualify as a Glucagon Licensing Event) by Buyer to any Person (other than Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from the Glucagon Program.

Glucagon Sale Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a Glucagon Sale Event.

Glucagon Sale Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Option Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Option Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Option Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Option Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the Glucagon Sale Option Event (including reasonable attorneys fees and brokers commissions).

Glucagon Sale Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Event which occurs after the Effective Time and on or before the sixth anniversary of the Effective Time, (b) 40% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Event which occurs after the sixth anniversary of the Effective Time and on or before the seventh anniversary of the Effective Time, (c) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Event which occurs after the seventh anniversary of the Effective Time and on or before the eighth anniversary of the Effective Time, or (d) 20% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a Glucagon Sale Event which occurs after the eighth anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the Glucagon Sale Event (including reasonable attorneys fees and brokers commissions).

Holder means a Person in whose name a Glucagon CVR is registered in the Glucagon CVR Register.

Landlord means ARE-SD Region No. 24, LLC.

Landlord Agreement means the Agreement for Termination of Lease and Voluntary Surrender of Premises dated July 21, 2009 between the Company and the Landlord, including any amendments thereto entered into before the Effective Time.

Non-Achievement Certificate has the meaning set forth in Section 2.4(b).

Notice of Objection has the meaning set forth in Section 2.4(c).

Objection Period has the meaning set forth in Section 2.4(c).

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Officer s Certificate means a certificate signed by the chief executive officer, president, chief financial officer, any vice president, the controller, the treasurer or the secretary, in each case, of Buyer, in his or her capacity as such an officer, and delivered to the Rights Agent.

Outside Date means the later to occur of (a) the 10th anniversary of the date hereof or (b) the last potential Glucagon CVR Payment Date pursuant to a Glucagon Payment Event which occurred before the 10th anniversary of the date hereof; provided, that in the event of a Glucagon Licensing Option Event or a Glucagon Sale Option Event, the Outside Date with respect to the optioned asset shall not occur before the earliest of the exercise, expiration or termination of such option.

Person shall mean any individual, firm, corporation, limited liability company, partnership, trust or other entity, and shall include any successor (by merger or otherwise) thereof or thereto.

Rights Agent means the Rights Agent named in the first paragraph of this Agreement, until a successor Rights Agent shall have become such pursuant to the applicable provisions of this Agreement, and thereafter **Rights Agent** shall mean such successor Rights Agent.

Rights Agent Fees and Expenses means the agreed-upon fees and expenses of the Rights Agent to act in such capacity pursuant to the terms of this Agreement.

Surviving Person has the meaning set forth in Section 6.1(a)(i).

ARTICLE II

CONTINGENT VALUE RIGHTS

Section 2.1 Issuance of Glucagon CVRs; Appointment of Rights Agent.

- (a) The Glucagon CVRs shall be issued pursuant to the Merger Agreement at the time and in the manner set forth in the Merger Agreement or pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.
- (b) Buyer hereby appoints the Rights Agent to act as rights agent for Buyer in accordance with the express terms and conditions hereinafter set forth in this Agreement (and no implied terms or conditions), and the Rights Agent hereby accepts such appointment.
- (c) To the extent permitted by applicable Legal Requirements, it is expressly agreed that in no event shall any Holders (as opposed to the Stockholders Representative) or any former stockholders of Target (as opposed to the Stockholders Representative) have, after the Effective Time, any power or right to commence or join in any Legal Proceeding based on or arising out of this Agreement or the Merger Agreement.

Section 2.2 Transferability.

At the option of a respective holder thereof, the Glucagon CVRs may be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, but only in accordance with Section 2.3 hereof and in compliance with all applicable Legal Requirements.

Section 2.3 No Certificate; Registration; Registration of Transfer; Change of Address.

- (a) The Glucagon CVRs shall be issued in book-entry form only and shall not be evidenced by a certificate or other instrument.

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(b) The Rights Agent shall keep a register (the *Glucagon CVR Register*) for the registration of Glucagon CVRs. The Rights Agent is hereby initially appointed Glucagon CVR registrar and transfer agent (*Glucagon CVR Registrar*) for the purpose of registering Glucagon CVRs and transfers of Glucagon CVRs as herein provided. Upon any change in the identity of the Rights Agent, the successor Rights Agent shall automatically also become the successor Glucagon CVR Registrar.

(c) Every request made to transfer a Glucagon CVR must be in writing and accompanied by a written instrument or instruments of transfer and any other documentation requested by Buyer or Glucagon CVR Registrar, in a form reasonably satisfactory to Buyer and the Glucagon CVR Registrar, properly completed and duly executed by the registered Holder or Holders thereof or by the duly appointed legal representative thereof or by a duly authorized attorney, such signature to be guaranteed by a participant in a recognized Signature Guarantee Medallion Program. Upon receipt of such written request and materials, and all other reasonably necessary information, the Glucagon CVR Registrar shall register the transfer of the Glucagon CVRs in the Glucagon CVR Register. All duly transferred Glucagon CVRs registered in the Glucagon CVR Register shall be the valid obligations of Buyer, evidencing the same right and shall entitle the transferee to the same benefits and rights under this Agreement, as those previously held by the transferor. No transfer of a Glucagon CVR shall be valid until registered in the Glucagon CVR Register, and any transfer not duly registered in the Glucagon CVR Register will not be honored by Buyer or the Rights Agent until it is so registered, and then it will be honored only prospectively. Any transfer or assignment of the Glucagon CVRs shall be without charge (other than the cost of any tax or charge that may be payable in respect of such transfer or assignment, which shall be the responsibility of the transferor) to the Holder. The Rights Agent shall have no duty or obligation under any Section of this Agreement that requires the payment of taxes or charges unless and until it is satisfied that such taxes and/or charges have been or will be paid.

(d) A Holder may make a written request to the Glucagon CVR Registrar to change such Holder's address of record in the Glucagon CVR Register. The written request must be duly executed by the Holder and conform to such other reasonable requirements as the Rights Agent may from time to time establish. Upon receipt of such proper written request, the Glucagon CVR Registrar shall promptly record the change of address in the Glucagon CVR Register.

(e) Upon reasonable written request of the Stockholders' Representative, the Rights Agent shall (at the Stockholders' Representative's expense) promptly provide a copy of the Glucagon CVR Register to the Stockholders' Representative.

Section 2.4 Payment Procedures.

(a) Promptly following the occurrence of a Glucagon CVR Payment Event, but in no event later than five Business Days after the occurrence of a Glucagon CVR Payment Event, Buyer shall deliver to the Rights Agent and the Stockholders' Representative a certificate (the *Achievement Certificate*), certifying that the Holders are entitled to receive a Glucagon CVR Payment Amount (and setting forth the calculation of such Glucagon CVR Payment Amount), and shall also deliver to the Rights Agent the indicated Glucagon CVR Payment Amount in cash. Until such Achievement Certificate is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that a Glucagon CVR Payment Event has not occurred. No transaction described in Section 6.1(a) hereof shall give the Holders the right to receive a Glucagon CVR Payment Amount. Such cash amount deposited with the Rights Agent shall, pending its disbursement to such holders, be invested by the Rights Agent in (i) direct obligations of the United States of America, (ii) obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest, or (iii) money market funds investing solely in a combination of the foregoing. Any interest and other income resulting from such investments shall be applied first to the satisfaction of the Rights Agent Fees and Expenses, and any remainder (the *Remainder*) shall be paid to the Holders as set forth in Section 2.4(e) below. The Rights Agent must receive federal or other immediately available funds before 1:00 p.m., Eastern Time, on the funding date in order for such funds to be so invested on such date. Funds received after such time on the funding

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date will not be so invested until the following Business Day. Except as expressly provided above, the Rights Agent will not be obligated to calculate or pay interest to any Holder or any other party.

(b) If no Glucagon CVR Payment Event has occurred on or before the Outside Date, then, within five Business Days after the Outside Date, Buyer shall deliver to the Rights Agent and the Stockholders Representative a certificate, stating that the Glucagon CVR Payment Event did not occur. Such certificate is herein referred to as the ***Non-Achievement Certificate***. Until such Non-Achievement Certificate is received by the Rights Agent, the Rights Agent shall have no duties or obligations with respect to the Outside Date, and the Rights Agent shall have no duties or obligations to monitor or determine the Outside Date.

(c) Subject to Section 5.16(a) of the Merger Agreement, within 45 calendar days after delivery by Buyer of a Non-Achievement Certificate or Achievement Certificate (the ***Objection Period***), the Stockholders Representative may deliver a written notice to Buyer (with a copy to the Rights Agent) specifying that the Stockholders Representative objects to (i) the determination of Buyer that no Glucagon CVR Payment Event occurred on or before the Outside Date or (ii) the calculation of the Glucagon CVR Payment Amount, as applicable (a ***Notice of Objection***), and stating the reason upon which the Stockholders Representative has determined that (A) the Glucagon CVR Payment Event has occurred on or before the Outside Date or (B) the calculation of the Glucagon CVR Payment Amount is in error, as applicable. Any dispute arising from a Notice of Objection shall be resolved in accordance with the procedure set forth in Section 7.12, which decision shall be binding on the parties hereto and every Holder.

(d) If a Notice of Objection with respect to a Non-Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to receive the Glucagon CVR Payment Amount, and Buyer and the Rights Agent shall have no further obligations with respect to the Glucagon CVR Payment Amount. If a Notice of Objection with respect to an Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to assert that the calculation of the Glucagon CVR Payment Amount is in error.

(e) If Buyer delivers an Achievement Certificate to the Rights Agent and the Stockholders Representative or if the Glucagon CVR Payment Amount is determined to be payable pursuant to Section 2.4(c) above, Buyer shall establish a Glucagon CVR Payment Date on the January 1 or July 1 which next follows the date of the Achievement Certificate or the date of final determination pursuant to Section 2.4(c) above, as applicable, and deliver written notice to the Rights Agent of such determination at least five (5) Business Days before such date. Until such notice is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that the Glucagon CVR Payment Date has not occurred. The Rights Agent shall have no duty or obligation to establish any payment amount or payment date with respect to the Glucagon CVR Payment Date. Upon receipt of such written notice and all other necessary information, the Rights Agent will, on such Glucagon CVR Payment Date, distribute the Glucagon CVR Payment Amount and the Remainder to the Holders (each Holder being entitled to receive its *pro rata* share of the Glucagon CVR Payment Amount and the Remainder based on the number of Glucagon CVRs held (as of the third Business Day before the Glucagon CVR Payment Date) by such Holder as reflected on the Glucagon CVR Register) by check mailed to the address of each such respective Holder as then reflected in the Glucagon CVR Register.

(f) Buyer shall be entitled to deduct and withhold, or cause to be deducted or withheld, from each Glucagon CVR Payment Amount otherwise payable pursuant to this Agreement, such amounts as Buyer or the applicable subsidiary of Buyer is required to deduct and withhold with respect to the making of such payment under the Internal Revenue Code, or any provision of state, local or foreign tax law. To the extent that amounts are so withheld or paid over to or deposited with the relevant governmental entity, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Holder in respect of which such deduction and withholding was made.

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(g) On such date following the Outside Date as the holders of at least 20% of the outstanding General CVRs shall request via two Business Day prior written notice to the Stockholders Representative, the Stockholders Representative shall deliver to the Rights Agent in cash any amount remaining available in the Stockholders Representative Fund together with written instructions regarding the distribution of such amount (including the names and addresses of the applicable Holders and the breakdown of amounts to be distributed), and the Rights Agent will, within five Business Days of receipt of such instructions and amount (such date the **Fund Distribution Date**), distribute such amount in accordance with such instructions to the Holders of the General CVRs, the Glucagon CVRs, the TR Beta CVRs and the Roche CVRs (each Holder being entitled to receive its *pro rata* share of such amount based on the number of General CVRs, Glucagon CVRs, TR Beta CVRs and Roche CVRs held (as of the Fund Distribution Date) by such Holder as reflected in the General CVR Register, the Glucagon CVR Register, the TR Beta CVR Register and the Roche CVR Register (as defined herein and in the General CVR Agreement, the TR Beta CVR Agreement and the Roche CVR Agreement) by check mailed to the address of each such respective Holder as reflected in the General CVR Register, the Glucagon CVR Register, the TR Beta CVR Register and the Roche CVR Register as of the Close of Business on the last Business Day before the Fund Distribution Date. Until such written instructions are received by the Rights Agent, the Rights Agent shall not be obligated to take any action with respect to this paragraph. After the Fund Distribution Date, the Stockholders Representative shall be relieved of any and all duties and obligations under the Merger Agreement or any of the CVR Agreements.

(h) Subject to prior execution and delivery by the Stockholders Representative to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, Buyer shall promptly furnish to the Stockholders Representative all information and documentation in connection with this Agreement and the Glucagon CVRs that the Stockholders Representative may reasonably request in connection with the determination of whether a Glucagon CVR Payment Event has occurred or whether the calculation of a Glucagon CVR Payment Amount is in error, as applicable. Subject to prior execution and delivery by the applicable Holders to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, the Stockholders Representative may forward any information and documentation it receives to the Holders who request such information, but the Stockholders Representative covenants and agrees that in no event shall the Stockholders Representative provide any such information or documentation to any Holder who (i) is a Competitor of Buyer or (ii) holds fewer than 1% of the total number of Glucagon CVRs.

Section 2.5 No Voting, Dividends or Interest; No Equity or Ownership Interest in Buyer.

(a) The Glucagon CVRs shall not have any voting or dividend rights, and interest shall not accrue on any amounts payable on the Glucagon CVRs to any Holder.

(b) The Glucagon CVRs shall not represent any equity or ownership interest in Buyer (or in any constituent company to the Merger) or in any drug development program or Intellectual Property or other asset. The rights of the holders of Glucagon CVRs are limited to those expressly set forth in this Agreement, and such holders' sole right to receive property hereunder is the right to receive cash from Buyer through the Rights Agent in accordance with the terms hereof.

Section 2.6 Sole Discretion and Decision Making Authority; No Fiduciary Duty.

Notwithstanding anything contained herein to the contrary, Buyer shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, (i) over any continued operation of, development of or investment in the Glucagon Program, (ii) over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar transfer agreement and/or agreement for the grant of an option to enter into any such transaction with respect to a drug candidate or technology or Intellectual Property from the Glucagon Program, and upon what terms and conditions, and (iii) over resolution of any third party claims relating to Contingent Payments.

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Section 2.7 Satisfaction of Contingent Payments. Notwithstanding anything herein to the contrary:

(a) It is understood that upon the occurrence of certain payment events under this Agreement and the other CVR Agreements, the Landlord may be entitled to payments pursuant to the terms of Section 10 of the Landlord Agreement and the employees that were terminated in Target's May 2009 reduction in force may be entitled to contingent severance payments pursuant to their respective severance arrangements (together, and including any payments to resolve claims arising in connection therewith, the *Contingent Payments*).

(b) In general, such Contingent Payments are to be satisfied first from amounts otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event, but in some instances the full amount payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be less than the Contingent Payments owing in respect of such payment event.

(c) In each case described in Section 2.7(b) above, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be paid by Buyer directly to the beneficiaries of the Contingent Payments rather than to or for the benefit of the holders of the CVRs under the applicable CVR Agreement, and the remainder of the Contingent Payments owing in respect of such payment event (the *Excess*) shall be paid by Buyer directly to the beneficiaries of the Contingent Payments.

(d) If an Excess is paid by Buyer pursuant to Section 2.7(c) of this Agreement or of any of the other CVR Agreements, then upon the next payment event under this Agreement or under any of the other CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid), Buyer shall withhold from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event, and shall keep for Buyer's own account to reimburse Buyer for having paid the Excess, an amount equal to 100% of the Excess (or, if less, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event). If Buyer is not thereby reimbursed for the entire Excess, the shortfall shall be rolled forward to be satisfied in the same manner by withholding from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of the next-to-occur payment event under any one of the CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid or in connection with which the Excess was partially satisfied).

ARTICLE III

THE RIGHTS AGENT

Section 3.1 Certain Duties and Responsibilities. The Rights Agent shall be authorized and protected and shall not have any liability for, or in respect of any actions taken, suffered or omitted to be taken by it in connection with its acceptance and administration of this Agreement and the exercise and performance of its duties hereunder, except to the extent of its own willful misconduct, bad faith or gross negligence (each as determined by a final, non-appealable judgment of a court of competent jurisdiction). No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers.

Section 3.2 Certain Rights of Rights Agent.

The Rights Agent undertakes to perform such duties and only such duties as are specifically set forth in this Agreement, and no implied covenants or obligations shall be read into this Agreement against the Rights Agent. In addition:

(a) the Rights Agent may rely and shall be authorized and protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent,

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order, power of attorney, endorsement, affidavit, letter or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties. The Rights Agent shall not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder but as to which no notice was provided, and the Rights Agent shall be fully protected and shall incur no liability for failing to take any action in connection therewith unless and until it has received such notice;

(b) whenever the Rights Agent shall deem it necessary or desirable that any fact or matter be proved or established by Buyer before taking, suffering or omitting to take any action hereunder, the Rights Agent may, in the absence of willful misconduct, bad faith or gross negligence on its part (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), request and rely upon an Officer's Certificate from Buyer with respect to such fact or matter; and such certificate shall be full and complete authorization and protection to the Rights Agent and the Rights Agent shall incur no liability for or in respect of any action taken, suffered or omitted to be taken by it under the provisions of this Agreement in reliance upon such certificate. The Rights Agent shall be fully authorized and protected in relying upon the most recent instructions received from Buyer. In the event the Rights Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Rights Agent hereunder, the Rights Agent, may, in its sole discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to Buyer or any other person or entity for refraining from taking such action, unless the Rights Agent receives written instructions from Buyer that eliminates such ambiguity or uncertainty to the satisfaction of the Rights Agent;

(c) the Rights Agent may engage and consult with counsel of its selection (who may be legal counsel for Buyer and/or an employee of the Rights Agent) and the advice of such counsel or any opinion of counsel shall be full and complete authorization and protection to the Rights Agent in respect of any action taken, suffered or omitted to be taken by it hereunder in reliance thereon in the absence of willful misconduct, bad faith or gross negligence on the part of the Rights Agent (as determined by a final, non-appealable judgment of a court of competent jurisdiction);

(d) in the event of arbitration, the Rights Agent may engage and consult with tax experts, valuation firms and other experts and third parties that it, in its sole and absolute discretion, deems appropriate or necessary to enable it to discharge its duties hereunder;

(e) the permissive rights of the Rights Agent to do things enumerated in this Agreement shall not be construed as a duty;

(f) the Rights Agent shall not be required to give any note or surety in respect of the execution of such powers or otherwise in respect of the premises;

(g) Buyer agrees to indemnify the Rights Agent for, and hold the Rights Agent harmless against, any loss, liability, damage, judgment, fine, penalty, claim, demand, suit, settlement, cost or expense (including, without limitation, the fees and expenses of legal counsel), incurred without willful misconduct, bad faith or gross negligence on the part of the Rights Agent (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), for any action taken, suffered or omitted to be taken by the Rights Agent in connection with the acceptance and administration of this Agreement, or the exercise or performance of its duties hereunder, including without limitation, the costs and expenses of defending against any claim of liability hereunder, directly or indirectly. The costs and expenses incurred in enforcing this right of indemnification shall be paid by Buyer. The provisions of this Article 3 shall survive the termination of this Agreement, the payment of any distributions made pursuant to this Agreement, and the resignation, replacement or removal of the Rights Agent hereunder, including, without limitation, the costs and expenses of defending a claim of liability hereunder;

(h) Except as paid pursuant to Section 2.4(a) of this Agreement, Buyer agrees to pay the Rights Agent Fees and Expenses in connection with this Agreement, as set forth on Schedule 1 hereto, and further including reimbursement of the Rights Agent for all taxes and charges, reasonable expenses and other charges of any kind and nature incurred by the Rights Agent in the execution of this Agreement (other than

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taxes measured by the Rights Agent's net income) and reimbursement for all reasonable and necessary out-of-pocket expenses (including reasonable fees and expenses of the Rights Agent's counsel and agent) paid or incurred by it in connection with the preparation, negotiation, delivery, amendment, administration and execution by the Rights Agent of this Agreement and its duties hereunder;

(i) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by Buyer only;

(j) The Rights Agent shall not have any liability for or be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof; nor shall it be responsible for any breach by Buyer of any covenant or failure by Buyer to satisfy conditions contained in this Agreement;

(k) Buyer agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of its duties under this Agreement;

(l) The Rights Agent and any stockholder, affiliate, director, officer, employee or agent of the Rights Agent may buy, sell or deal in any of the Rights or other securities of Buyer or become pecuniarily interested in any transaction in which Buyer may be interested, or contract with or lend money to Buyer or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent or any stockholder, affiliate, director, officer, employee or agent from acting in any other capacity for Buyer or for any other Person; and

(m) The Rights Agent shall not be subject to, nor be required to comply with, or determine if any person or entity has complied with, the Merger Agreement or any other agreement between or among any of Buyer, Target, Stockholders' Representative or any other parties hereto, even though reference thereto may be made in this Agreement, or to comply with any notice, instruction, direction, request or other communication, paper or document other than as expressly set forth in this Agreement.

Section 3.3 Resignation and Removal; Appointment of Successor.

(a) The Rights Agent may resign and be discharged from its duties at any time by giving written notice thereof to Buyer and the Stockholders' Representative specifying a date when such resignation shall take effect, which notice shall be sent at least 30 days before the date so specified.

(b) If the Rights Agent shall resign, be removed or become incapable of acting, Buyer, by way of a Board Resolution, shall promptly appoint a qualified successor Rights Agent who may (but need not) be a Holder but shall not be an officer of Buyer. The successor Rights Agent so appointed shall, forthwith upon its acceptance of such appointment in accordance with this Section 3.3(b), become the successor Rights Agent.

(c) Buyer shall give notice to the Stockholders' Representative of each resignation and each removal of a Rights Agent and each appointment of a successor Rights Agent. Such notice shall include the name and address of the successor Rights Agent. If Buyer fails to send such notice within ten days after acceptance of appointment by a successor Rights Agent, the successor Rights Agent shall cause such notice to be mailed at the expense of Buyer.

Section 3.4 Acceptance of Appointment by Successor.

Every successor Rights Agent appointed hereunder shall execute, acknowledge and deliver to Buyer, the Stockholders' Representative and the retiring Rights Agent an instrument accepting such appointment and a counterpart of this Agreement, and thereupon such successor Rights Agent, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Rights Agent;

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provided, that upon the request of Buyer, the Stockholders Representative or the successor Rights Agent, such retiring Rights Agent shall execute and deliver an instrument transferring to such successor Rights Agent all the rights, powers and trusts of the retiring Rights Agent and shall cooperate in the transfer of all relevant data, including the Glucagon CVR Register, to the successor Rights Agent.

ARTICLE IV

COVENANTS

Section 4.1 List of Holders.

Buyer shall furnish or cause to be furnished to the Rights Agent in such form as Buyer receives from its transfer agent (or other agent performing similar services for Buyer), the names, addresses and Glucagon CVR holdings of the Holders, within five Business Days after the effective time of the Merger. Buyer shall furnish or cause to be furnished supplementally to the Rights Agent the names, addresses and Glucagon CVR holdings of any persons acquiring Glucagon CVRs upon the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, forthwith after each such exercise.

Section 4.2 Payment of Glucagon CVR Payment Amount.

Buyer shall duly and promptly pay the Glucagon CVR Payment Amount, if any, in immediately available funds, to the Rights Agent to be distributed to the Holders in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. The Rights Agent shall have no liability of any kind, and shall not be obligated to make any payments, unless and until it receives the Glucagon CVR Payment Amount from Buyer.

Section 4.3 Assignments.

Buyer shall not, in whole or in part, assign any of its obligations under this Agreement other than in accordance with the terms of Section 6.1 hereof.

Section 4.4 Availability of Information.

Buyer will comply with all applicable periodic public information reporting requirements of the SEC to which it may from time to time be subject. Buyer will provide to the Rights Agent all information in connection with this Agreement and the Glucagon CVRs that the Rights Agent may reasonably request.

ARTICLE V

AMENDMENTS

Section 5.1 Amendments Without Consent of Stockholders Representative/ Holders.

(a) Without the consent of the Stockholders Representative or any Holders or the Rights Agent, Buyer, when authorized by a Board Resolution, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person to Buyer and the assumption by any such successor of the covenants of Buyer herein in a transaction contemplated by Section 6.1 hereof; or

(ii) to evidence the termination of the Glucagon CVR Registrar and the succession of another Person as a successor Glucagon CVR Registrar and the assumption by any successor of the obligations of the Glucagon CVR Registrar herein.

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(b) Without the consent of the Stockholders Representative or any Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent, in the Rights Agent's sole and absolute discretion, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person as a successor Rights Agent and the assumption by any successor of the covenants and obligations of the Rights Agent herein;

(ii) to add to the covenants of Buyer such further covenants, restrictions, conditions or provisions as the Board of Directors shall consider to be for the protection of the Holders; provided, that in each case, such provisions shall not adversely affect the interests of the Holders;

(iii) to cure any ambiguity, to correct or supplement any provision herein that may be defective or inconsistent with any other provision herein, or to make any other provisions with respect to matters or questions arising under this Agreement; provided, that in each case, such provisions shall not adversely affect the interests of the Holders; or

(iv) to add, eliminate or change any provision of this Agreement unless such addition, elimination or change is adverse to the interests of the Holders and/or to the interests of the Stockholders Representative.

(c) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.1, Buyer shall so notify the Stockholders Representative in writing.

Section 5.2 Amendments With Consent of Stockholders Representative or Holders.

(a) Subject to Section 5.1 (which amendments pursuant to Section 5.1 may be made without the consent of the Holders), with the consent of the Stockholders Representative or of the Holders of not less than a majority of the outstanding Glucagon CVRs, whether evidenced in writing or taken at a meeting of the Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent may enter into one or more amendments hereto for the purpose of adding, eliminating or changing any provisions of this Agreement, even if such addition, elimination or change is in any way adverse to the interests of the Holders and/or to the interests of the Stockholders Representative. Any such amendment shall be fully valid even if such amendment is signed only by Buyer and the Rights Agent.

(b) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.2, Buyer shall mail a notice thereof by first-class mail to the Holders at their addresses as they shall appear on the Glucagon CVR Register, setting forth in general terms the substance of such amendment.

Section 5.3 Execution of Amendments.

Before executing any amendment permitted by this Article V, the Rights Agent shall be entitled to receive, and shall be fully protected in relying upon, an opinion of counsel stating that the execution of such amendment is authorized or permitted by this Agreement, and that all consents, if any, have been obtained in accordance with Section 5.2. The Rights Agent may, but is not obligated to, enter into any such amendment that affects the Rights Agent's own rights, privileges, covenants, immunities, obligations or duties under this Agreement or otherwise.

Section 5.4 Effect of Amendments.

Upon the execution of any amendment under this Article V, this Agreement shall be modified in accordance therewith, such amendment shall form a part of this Agreement for all purposes and the Stockholders Representative and every Holder shall be bound thereby.

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ARTICLE VI

CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 6.1 Buyer May Consolidate, Etc.

(a) Buyer shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

(i) the Person formed by such consolidation or into which Buyer is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of Buyer substantially as an entirety (the **Surviving Person**) shall expressly assume payment (if and to the extent required hereunder) of amounts on all the Glucagon CVRs and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed; and

(ii) Buyer has delivered to the Rights Agent an Officer's Certificate, stating that such consolidation, merger, conveyance, transfer or lease complies with this Article VI and that all conditions precedent herein provided for relating to such transaction have been complied with.

(b) In the event Buyer conveys, transfers or leases its properties and assets substantially as an entirety in accordance with the terms and conditions of this Section 6.1, Buyer and the Surviving Person shall be jointly and severally liable for the payment of the Glucagon CVR Payment Amount and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed.

Section 6.2 Successor Substituted.

Upon any consolidation of or merger by Buyer with or into any other Person, or any conveyance, transfer or lease of the properties and assets substantially as an entirety to any Person in accordance with Section 6.1, the Surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, Buyer under this Agreement with the same effect as if the Surviving Person had been named as Buyer herein, and thereafter the predecessor Person shall be relieved of all obligations and covenants under this Agreement and the Glucagon CVRs.

ARTICLE VII

OTHER PROVISIONS OF GENERAL APPLICATION

Section 7.1 Notices to Rights Agent and Buyer.

Any request, demand, authorization, direction, notice, consent, waiver or other document provided or permitted by this Agreement shall be sufficient for every purpose hereunder if in writing and delivered personally, or sent by email or sent by certified or registered mail (return receipt requested and first-class postage prepaid) or sent by a nationally recognized overnight courier (with proof of service), addressed as follows, and shall be deemed to have been given upon receipt:

(a) if to the Rights Agent, addressed to it at Mellon Investor Services LLC, 400 S. Hope Street, 4th Floor, Los Angeles, CA 90071, Attn: Mark Cano, or at any other address previously furnished in writing to the Stockholders' Representative and Buyer by the Rights Agent in accordance with this Section 7.1 and Section 7.2, with a copy to Mellon Investor Services LLC, 480 Washington Boulevard, Jersey City, NJ 07310, Attn: Legal Department; or

(b) if to Buyer, addressed to it at 10275 Science Center Drive, San Diego, California 92121, email at jhiggins@ligand.com, or at any other address previously furnished in writing to the Rights Agent and the Stockholders' Representative by Buyer in accordance with this Section 7.1 and Section 7.2.

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Section 7.2 Notice to Holders or Stockholders Representative.

Where this Agreement provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid, to each Holder affected by such event, at his, her or its address as it appears in the Glucagon CVR Register, not later than the latest date, and not earlier than the earliest date, prescribed for the giving of such notice. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Agreement provides for notice to the Stockholders Representative, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and personally delivered or sent by email or sent by a nationally recognized overnight courier (with proof of service) or mailed, first-class postage prepaid, to the Stockholders Representative at 1042-B N. El Camino Real, Suite 430, Encinitas, CA 92024, email at dfhale@biopharmaventures.com, or at any other address previously furnished in writing to the Rights Agent and Buyer by the Stockholders Representative in accordance with Section 7.1 and this Section 7.2. Notwithstanding anything contained herein to the contrary, the information set forth in any notices delivered by Buyer hereunder related to a Glucagon CVR Payment Event or an amendment to this Agreement pursuant to Article V hereof and provided solely to the Stockholders Representative (or a summary of such information) shall also be reported by Buyer on a Form 8-K, 10-Q or 10-K of Buyer filed with the SEC.

Section 7.3 Effect of Headings.

The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

Section 7.4 Successors and Assigns.

All covenants and agreements in this Agreement by Buyer shall bind its successors and assigns, whether so expressed or not.

Section 7.5 Benefits of Agreement.

Nothing in this Agreement, express or implied, shall give to any Person (other than the parties hereto, the Holders and their permitted successors and assigns hereunder) any benefit or any legal or equitable right, remedy or claim under this Agreement or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto, the Holders and their permitted successors and assigns. The Holders shall have no rights or remedies hereunder except as expressly set forth herein.

Section 7.6 Governing Law.

This Agreement and the Glucagon CVRs shall be governed by and construed in accordance with the laws of the State of California without regards to its rules of conflicts of laws; provided, however, that all provisions, regarding the rights, duties, obligations and liabilities of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed entirely within such State.

Section 7.7 Legal Holidays.

In the event that a Glucagon CVR Payment Date shall not be a Business Day, then, notwithstanding any provision of this Agreement to the contrary, any payment required to be made in respect of the Glucagon CVRs on such date need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the Glucagon CVR Payment Date.

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Section 7.8 Severability Clause.

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein; provided, however, that if any such excluded term, provision, covenant or restriction shall adversely affect the rights, immunities, duties or obligations of the Rights Agent, the Rights Agent shall be entitled to resign immediately. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

Section 7.9 Counterparts.

This Agreement may be signed in any number of counterparts (which may be effectively delivered by facsimile or other electronic means), each of which shall be deemed to constitute but one and the same instrument.

Section 7.10 Termination.

This Agreement shall terminate and be of no further force or effect, and the parties hereto shall have no liability hereunder, on the first day after the Outside Date on which no further dispute is possible. A dispute shall be considered possible if an Objection Period is in progress, or if a Section 7.12 process is in progress, or if any payment or other obligation required pursuant to a final determination made in accordance with Section 7.12 has not yet occurred.

Section 7.11 Entire Agreement.

As it relates to the Rights Agent, this Agreement represents the entire understanding of the parties hereto with reference to the Glucagon CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the Glucagon CVRs. As it relates to all other parties hereto, this Agreement and the Merger Agreement represent the entire understanding of the parties hereto with reference to the Glucagon CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the Glucagon CVRs, except for the Merger Agreement. If and to the extent that any provision of this Agreement is inconsistent or conflicts with the Merger Agreement, this Agreement shall govern and be controlling.

Section 7.12 Negotiation; Arbitration.

(a) Before any arbitration pursuant to Section 7.12(b), Buyer and (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative shall negotiate in good faith for a period of 30 days to resolve any controversy or claim arising out of or relating to this Agreement or the breach thereof.

(b) After expiration of the 30-day period contemplated by Section 7.12(a), such controversy or claim, including any claims for breach of this Agreement, shall be settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. Buyer and/or (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative may initiate an arbitration for any matter relating to this Agreement. However, in the event of a dispute arising from the delivery of a Notice of Objection, the sole matter to be settled by arbitration shall be whether a Glucagon CVR Payment Event has occurred on or before the Outside Date or whether the calculation of the Glucagon CVR Payment Amount is in error, as applicable. The number of arbitrators shall be three. Within 15 days after the commencement of arbitration, each party shall

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select one person to act as arbitrator, and the two selected shall select a third arbitrator within 15 days of their appointment. If the arbitrators selected by the parties are unable or fail to agree upon the third arbitrator, the third arbitrator shall be selected by the American Arbitration Association. The place of the arbitration shall be San Diego, California. The arbitrators shall be lawyers or retired judges with experience in the life sciences industry and with mergers and acquisitions. Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both parties. Any award payable in favor of the Holders or the Stockholders Representative as a result of arbitration shall be paid by Buyer to the Rights Agent to be distributed to the Holders the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Buyer and Stockholders Representative shall pay in equal halves all fees and expenses of the arbitration forum, including the costs and expenses billed by the arbitrators in connection with the performance of their duties described herein; provided, however, that if the arbitrators rule in favor of Buyer, an amount equal to the half of the arbitrators fees and expenses paid by Buyer shall be offset against the soonest Glucagon CVR Payment Amount(s), if any, or any payment to be made thereafter under any of the other CVR Agreements, and if the arbitrators rule in favor of the Holders or the Stockholders Representative, an amount equal to the half of the arbitrators fees and expenses paid by the Stockholders Representative shall be paid by Buyer to the Rights Agent to be distributed to the Holders on the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Each party to the arbitration (which, for the avoidance of doubt, shall not include the Rights Agent) shall be responsible for its own attorney fees, expenses and costs of investigation.

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IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

LIGAND PHARMACEUTICALS INCORPORATED

By:
Name:
Title:

METABASIS THERAPEUTICS, INC.

By:
Name:
Title:

MELLON INVESTOR SERVICES LLC, as Rights Agent

By:
Name: Mark Cano
Title: Relationship Manager

DAVID F. HALE, as Stockholders Representative

By:

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Annex E

Form of General CVR Agreement

CONTINGENT VALUE RIGHTS AGREEMENT*

THIS CONTINGENT VALUE RIGHTS AGREEMENT, dated as of [] (this *Agreement* , is entered into by and among Ligand Pharmaceuticals Incorporated, a Delaware corporation (*Buyer*), Metabasis Therapeutics, Inc., a Delaware corporation (*Target*), David F. Hale, as Stockholders Representative (the *Stockholders Representative*), and Mellon Investor Services LLC, a New Jersey limited liability company, as Rights Agent (the *Rights Agent*) and as initial General CVR Registrar (as defined herein).

Preamble

Buyer, Moonstone Acquisition, Inc., a Delaware corporation and wholly-owned subsidiary of Buyer (*Sub*), Target and the Stockholders Representative have entered into an Agreement and Plan of Merger dated as of October 26, 2009 (as amended to date, the *Merger Agreement*), pursuant to which Sub will merge with and into Target (the *Merger*), with Target surviving the Merger as a subsidiary of Buyer.

Pursuant to the Merger Agreement, Buyer agreed to create and issue to Target s stockholders of record immediately before the effective time of the Merger, contingent value rights as hereinafter described.

The parties have done all things necessary to make the contingent value rights, when issued pursuant to the Merger Agreement and hereunder, the valid obligations of Buyer and to make this Agreement a valid and binding agreement of Buyer, in accordance with its terms.

NOW, THEREFORE, for and in consideration of the premises and the consummation of the transactions referred to above, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders (as hereinafter defined), as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Definitions.

(a) For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(i) the terms defined in this Article have the meanings assigned to them in this Article, and include the plural as well as the singular;

(ii) all accounting terms used herein and not expressly defined herein shall have the meanings assigned to such terms in accordance with United States generally accepted accounting principles, as in effect on the date hereof;

(iii) the words herein, hereof and hereunder and other words of similar import refer to this Agreement as a whole and not to any particular Article, Section or other subdivision;

* Including amendments made by Amendment to Agreement and Plan of Merger dated as of November 25, 2009. The amendments are to the first paragraph of the Preamble, Section 1.1(b) (the definitions of Landlord Agreement and General CVR Payment Amount), Section 2.6, Section 2.7(a) and Section 2.7(e) (deleted).

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(iv) unless the context otherwise requires, words describing the singular number shall include the plural and vice versa, words denoting any gender shall include all genders and words denoting natural Persons shall include corporations, partnerships and other Persons and vice versa; and

(v) all references to including shall be deemed to mean including without limitation.

(b) Capitalized terms used but not otherwise defined herein shall have the meanings ascribed thereto in the Merger Agreement. The following terms shall have the meanings ascribed to them as follows:

Achievement Certificate has the meaning set forth in Section 2.4(a).

Board of Directors means the board of directors of Buyer.

Board Resolution means a copy of a resolution certified by the secretary or an assistant secretary of Buyer to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Rights Agent.

Business Day means any day other than a Saturday, Sunday or a day on which the banks in New York, New Jersey or California are authorized or obligated by law or executive order to close.

Close of Business on any given date shall mean 5:00 P.M., California time, on such date; provided, however, that if such date is not a Business Day it shall mean 5:00 P.M., California time, on the next succeeding Business Day.

Competitor of Buyer has the same meaning as set forth in the Merger Agreement for Competitor of Parent.

DGAT-1 Program shall mean the Company's program for the development of diacylglycerol acyltransferase-1 (DGAT-1) inhibitors for the treatment of obesity and other metabolic diseases, including all related Intellectual Property and other related rights of the Company, and any and all non-clinical data compiled by the Company, in each case arising from the Company's operation of such program.

Extended Funding Shortfall shall mean the excess, if any, of \$8,000,000 over the Funding Buyer incurs during the first 48 months following the Effective Time.

Extended Funding Shortfall Amount means the excess, if any, of (a) the product of the Fraction times 100% of the dollar amount of the Extended Funding Shortfall, minus (b) the sum of the General Program Funding Shortfall Amount, if any, paid by Buyer, and the First Funding Shortfall Amount, if any, paid by Buyer. If it is deemed that no Extended Funding Shortfall Event has occurred, the Extended Funding Shortfall Amount shall be deemed to be zero.

Extended Funding Shortfall Event means the occurrence of the date as of which, pursuant to the Merger Agreement, Buyer is obligated to calculate the Extended Funding Shortfall Amount. If no Funding Extension has been given pursuant to the provisions of *Section 5.15(d)* of the Merger Agreement, no Extended Funding Shortfall Event will be deemed to have occurred.

FBPase Inhibitor Program shall mean the Company's program on the development of fructose-1,6-bisphosphatase (FBPase) inhibitors for the treatment of diabetes, including all related Intellectual Property and other related rights of the Company, and any and all clinical and non-clinical data compiled by the Company, in each case arising from the Company's operation of such program.

First Funding Shortfall shall mean the excess, if any, of \$7,000,000 over the Funding Buyer incurs during the first 30 months following the Effective Time.

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First Funding Shortfall Amount means the excess, if any, of (a) the product of the Fraction times 100% of the dollar amount of the First Funding Shortfall, minus (b) the General Program Funding Shortfall Amount, if any, paid by Buyer. If it is deemed that no First Funding Shortfall Event has occurred, the First Funding Shortfall Amount shall be deemed to be zero.

First Funding Shortfall Event means the occurrence of the date as of which, pursuant to the Merger Agreement, Buyer is obligated to calculate the First Funding Shortfall Amount. If such obligation is negated pursuant to the provisions of *Section 5.15(c)* of the Merger Agreement, no First Funding Shortfall Event will be deemed to have occurred.

Fraction means the quotient of (a) the number of Company Shares outstanding as of the Effective Time plus the number of General CVRs issued between the Effective Time and the occurrence of the applicable General CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, minus the number of Dissenting Shares (determined as of the occurrence of the applicable General CVR Payment Event), divided by (b) the sum of the number of Company Shares outstanding as of the Effective Time plus the number of General CVRs issued between the Effective Time and the occurrence of the applicable General CVR Payment Event pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.

Fund Distribution Date has the meaning set forth in Section 2.4(g).

Funding Shortfall shall mean the excess, if any, of \$8,000,000 over the Funding Buyer incurs during the first 42 months following the Effective Time.

Funding Shortfall Amount means the excess, if any, of (a) the product of the Fraction times 100% of the dollar amount of the Funding Shortfall, minus (b) the sum of the General Program Funding Shortfall Amount, if any, paid by Buyer, and the First Funding Shortfall Amount, if any, paid by Buyer. If it is deemed that no Funding Shortfall Event has occurred, the Funding Shortfall Amount shall be deemed to be zero.

Funding Shortfall Event means the occurrence of the date as of which, pursuant to the Merger Agreement, Buyer is obligated to calculate the Funding Shortfall Amount. If a Funding Extension is given pursuant to the provisions of *Section 5.15(d)* of the Merger Agreement, no Funding Shortfall Event will be deemed to have occurred.

General CVR Payment Amount means, as applicable, a General Program Funding Shortfall Amount, a First Funding Shortfall Amount, a Funding Shortfall Amount, an Extended Funding Shortfall Amount, a General Licensing Option Payment Amount, a General Sale Option Payment Amount, a General Licensing Payment Amount, a General Sale Payment Amount, a 7133 Payment Amount, a PeriCor Amount, a QM/MM Amount or a Warrant Exercise Amount; less, in each case (i) 1% (or such lesser percentage as is the maximum permissible pursuant to the following proviso) of such General Program Funding Shortfall Amount, First Funding Shortfall Amount, Funding Shortfall Amount, Extended Funding Shortfall Amount, General Licensing Option Payment Amount, General Sale Option Payment Amount, General Licensing Payment Amount, General Sale Payment Amount, 7133 Payment Amount, PeriCor Amount, QM/MM Amount or Warrant Exercise Amount, as applicable, which amount shall be contributed to the Stockholders Representative Fund; provided that no such amount shall be contributed to the Stockholders Representative Fund to the extent that the sum of such amount and the amount then held in the Stockholders Representative Fund would exceed \$300,000, (ii) to the extent applicable in respect thereof, any amount payable by Buyer or the Surviving Corporation to the Landlord pursuant to the terms of Section 10 of the Landlord Agreement and (iii) to the extent applicable in respect thereof, any contingent severance payments payable to the employees that were terminated in Target's May 2009 reduction in force.

General CVR Payment Date means the January 1 or July 1 next following the date (if any and if ever) that a General CVR Payment Amount is payable by Buyer to the Holders, which date shall be established pursuant to Section 2.4.

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General CVR Payment Event means, as applicable, a General Program Funding Shortfall Event, a First Funding Shortfall Event, a Funding Shortfall Event, an Extended Funding Shortfall Event, a General Licensing Option Event, a General Licensing Event, a General Sale Option Event, a General Sale Event, a 7133 Event, a PeriCor Event, a QM/MM Event or a Warrant Exercise Event.

General CVR Register has the meaning set forth in Section 2.3(b).

General CVR Registrar has the meaning set forth in Section 2.3(b).

General CVRs means the General Contingent Value Rights issued by Buyer pursuant to the Merger Agreement and this Agreement.

General Licensing Event means the licensing by Buyer to any Person (other than to Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from a General Program.

General Licensing Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a General Licensing Event.

General Licensing Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Licensing Option Event with respect to a General Program in which Buyer has not at the time of such General Licensing Option Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, or (b) 25% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Licensing Option Event with respect to a General Program in which Buyer has at the time of such General Licensing Option Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with such General Licensing Option Event (including reasonable attorneys fees and brokers commissions).

General Licensing Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Licensing Event with respect to a General Program in which Buyer has not at the time of such General Licensing Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, or (b) 25% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Licensing Event with respect to a General Program in which Buyer has at the time of such General Licensing Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with such General Licensing Event (including reasonable attorneys fees and brokers commissions).

General Program means any one of the drug research and/or development programs conducted before the Merger by Target (including without limitation the DGAT-1 Program, FB Pase Inhibitor Program, GK Program, HepDirect Program and Pradefovir Program) other than the Glucagon Program, the 7133 Program and the TR Beta Program (as each of those three programs are defined in the Merger Agreement), and as may be continued after the Merger by Buyer.

General Program Funding Shortfall shall mean the excess, if any, of \$350,000 over the Funding Buyer incurs during the first 12 months following the Effective Time for the General Program for which Buyer has incurred the most Funding during the first 12 months following the Effective Time.

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General Program Funding Shortfall Amount means the product of the Fraction times 100% of the dollar amount of the General Program Funding Shortfall. If it is deemed that no General Program Funding Shortfall Event has occurred, the General Program Funding Shortfall Amount shall be deemed to be zero.

General Program Funding Shortfall Event means the occurrence of the date as of which, pursuant to the Merger Agreement, Buyer is obligated to calculate the General Program Funding Shortfall Amount. If such obligation is negated pursuant to the provisions of *Section 5.15(b)* of the Merger Agreement, no General Program Funding Shortfall Event will be deemed to have occurred.

General Sale Event means the consummation of the sale or other similar transfer (that does not qualify as a General Licensing Event) by Buyer to any Person (other than Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from a General Program.

General Sale Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a General Sale Event.

General Sale Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Sale Option Event with respect to a General Program in which Buyer has not at the time of such General Sale Option Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, or (b) 25% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Sale Option Event with respect to a General Program in which Buyer has at the time of such General Sale Option Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with such General Sale Option Event (including reasonable attorneys fees and brokers commissions).

General Sale Payment Amount means a cash amount equal to the product of the Fraction times (a) 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Sale Event with respect to a General Program in which Buyer has not at the time of such General Sale Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, or (b) 25% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a General Sale Event with respect to a General Program in which Buyer has at the time of such General Sale Event made research and/or development investments (that would qualify as Funding expenditures) after the Effective Time of at least \$700,000, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with such General Sale Event (including reasonable attorneys fees and brokers commissions).

GK Program shall mean the Company's program for the development of glucose kinase (GK) activators for the treatment of type 2 diabetes and other metabolic diseases, including all related Intellectual Property and other related rights of the Company, and any and all non-clinical data compiled by the Company, in each case arising from the Company's operation of such program.

HepDirect Program means the Company's active program for the development of a liver-specific drug targeting technology for chemically modifying the molecule to render it inactive until the modification is cleaved off by a liver-specific enzyme, including all related Intellectual Property and other related rights of the Company, and any and all clinical and non-clinical data compiled by the Company, in each case arising from the Company's operation of such program.

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Holder means a Person in whose name a General CVR is registered in the General CVR Register.

Landlord means ARE-SD Region No. 24, LLC.

Landlord Agreement means the Agreement for Termination of Lease and Voluntary Surrender of Premises dated July 21, 2009 between the Company and the Landlord, including any amendments thereto entered into before the Effective Time.

Non-Achievement Certificate has the meaning set forth in Section 2.4(b).

Notice of Objection has the meaning set forth in Section 2.4(c).

Objection Period has the meaning set forth in Section 2.4(c).

Officers Certificate means a certificate signed by the chief executive officer, president, chief financial officer, any vice president, the controller, the treasurer or the secretary, in each case, of Buyer, in his or her capacity as such an officer, and delivered to the Rights Agent.

Outside Date means the later to occur of (a) the 10th anniversary of the date hereof or (b) the last potential General CVR Payment Date pursuant to a General CVR Payment Event which occurred before the 10th anniversary of the date hereof; provided, that in the event of a General Licensing Option Event or a General Sale Option Event, the Outside Date with respect to the optioned asset shall not occur before the earliest of the exercise, expiration or termination of such option.

PeriCor Agreements means together: (a) that certain License Agreement dated November 10, 2000 by and between Dennis T. Mangano, Ph.D., M.D. and Target, as amended by that certain License Agreement dated October 12, 2004 by and between Dennis T. Mangano, Ph.D., M.D. and Target; and (b) that certain Letter Agreement dated August 14, 2007, by and among Schering Corporation, Dennis T. Mangano, Ph.D., M.D., Advanced Genomic Therapeutics Company, LLC, PeriCor Therapeutics, Inc. and Target, each as amended from time to time.

PeriCor Amount means the product of the Fraction times 60% of the Proceeds to Buyer (net of any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with the PeriCor Event (including reasonable attorneys fees and brokers commissions)) of any PeriCor Event.

PeriCor Event means (a) the receipt by Buyer or the Surviving Corporation of cash from any dividend on or any sale or transfer of all or any portion of the 1,010,000 shares of common stock of PeriCor Therapeutics, Inc., which were owned by Target before the Merger, (b) the receipt by Buyer or the Surviving Corporation of a milestone payment or royalty payment pursuant to the PeriCor Agreements or (c) the full or partial sale, surrender or transfer by Buyer or the Surviving Corporation to PeriCor Therapeutics, Inc. or any other third party of rights to receive milestone payments under the PeriCor Agreements, rights to receive royalty payments under the PeriCor Agreements, or all or any portion of a drug candidate or technology or Intellectual Property from the drug development program licensed pursuant to the PeriCor Agreements.

Person shall mean any individual, firm, corporation, limited liability company, partnership, trust or other entity, and shall include any successor (by merger or otherwise) thereof or thereto.

Pradefovir Program shall mean the Company's program for the development of pradefovir for the treatment of patients with hepatitis B, including all related Intellectual Property and other related rights of the Company, and any and all clinical and non-clinical data compiled by the Company, or its collaboration partners, arising from the operation of such program.

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QM/MM Amount means a cash amount equal to the product of the Fraction times 50% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time after the Effective Time and before the Outside Date, in connection with a QM/MM Event, less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates, in connection with such QM/MM Event (including reasonable attorneys fees and brokers commissions).

QM/MM Event means the consummation of the sale or other similar transfer by Buyer to any Person (other than Buyer) of all or any portion of the QM/MM Technology.

QM/MM Technology shall mean the Company's proprietary computer modeling technology used for the discovery and optimization of potential drug candidates, including all associated software code.

Rights Agent means the Rights Agent named in the first paragraph of this Agreement, until a successor Rights Agent shall have become such pursuant to the applicable provisions of this Agreement, and thereafter Rights Agent shall mean such successor Rights Agent.

Rights Agent Fees and Expenses means the agreed-upon fees and expenses of the Rights Agent to act in such capacity pursuant to the terms of this Agreement.

7133 Event means, as applicable, a 7133 Licensing Option Event, a 7133 Licensing Event, a 7133 Sale Option Event or a 7133 Sale Event.

7133 Licensing Event means the licensing by Buyer to any Person (other than to Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from either the HepDirect Program or the 7133 Program.

7133 Licensing Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a 7133 Licensing Event.

7133 Licensing Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 90% of the aggregate Proceeds actually received by Target or by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Licensing Option Event which occurs after October 1, 2009 and on or before the sixth-month anniversary of the Effective Time, (b) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Licensing Option Event which occurs after the sixth-month anniversary of the Effective Time and on or before the 24th-month anniversary of the Effective Time, or (c) 10% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Licensing Option Event which occurs after the 24th-month anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates (including, but only from and after October 1, 2009, Target), in connection with the 7133 Licensing Option Event (including reasonable attorneys fees and brokers commissions).

7133 Licensing Payment Amount means a cash amount equal to the product of the Fraction times (a) 90% of the aggregate Proceeds actually received by Target or by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Licensing Event which occurs after October 1, 2009 and on or before the sixth-month anniversary of the Effective Time, (b) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Licensing Event which occurs after the sixth-month anniversary of the Effective Time and on or before the 24th-month anniversary of the Effective Time, or (c) 10% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Licensing Event which occurs after the 24th-month anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates (including, but only from and after October 1, 2009, Target), in connection with the 7133 Licensing Event (including reasonable attorneys fees and brokers commissions).

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7133 Payment Amount means, as applicable, a 7133 Licensing Option Payment Amount, a 7133 Sale Option Payment Amount, a 7133 Licensing Payment Amount or a 7133 Sale Payment Amount.

7133 Program means the program conducted before the Merger by Target intended to create a HepDirect prodrug of AraCMP for the treatment of hepatocellular carcinoma, and as may be continued after the Merger by Buyer.

7133 Sale Event means the consummation of the sale or other similar transfer (that does not qualify as a 7133 Licensing Event) by Buyer to any Person (other than Buyer) of all or any portion of a drug candidate or technology or Intellectual Property from the 7133 Program.

7133 Sale Option Event means the grant of an option by Buyer to any Person (other than Buyer) to enter into a 7133 Sale Event.

7133 Sale Option Payment Amount means a cash amount equal to the product of the Fraction times (a) 90% of the aggregate Proceeds actually received by Target or by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Sale Option Event which occurs after October 1, 2009 and on or before the sixth-month anniversary of the Effective Time, (b) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Sale Option Event which occurs after the sixth-month anniversary of the Effective Time and on or before the 24th-month anniversary of the Effective Time, or (c) 10% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Sale Option Event which occurs after the 24th-month anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates (including, but only from and after October 1, 2009, Target), in connection with the 7133 Sale Option Event (including reasonable attorneys fees and brokers commissions).

7133 Sale Payment Amount means a cash amount equal to the product of the Fraction times (a) 90% of the aggregate Proceeds actually received by Target or by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Sale Event which occurs after October 1, 2009 and on or before the sixth-month anniversary of the Effective Time, (b) 30% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Sale Event which occurs after the sixth-month anniversary of the Effective Time and on or before the 24th-month anniversary of the Effective Time, or (c) 10% of the aggregate Proceeds actually received by Buyer, or any of its subsidiaries or Affiliates, at any time before the Outside Date, in connection with a 7133 Sale Event which occurs after the 24th-month anniversary of the Effective Time, in each case less any out-of-pocket costs and expenses reasonably incurred by Buyer, or any of its subsidiaries or Affiliates (including, but only from and after October 1, 2009, Target), in connection with the 7133 Sale Event (including reasonable attorneys fees and brokers commissions).

Surviving Person has the meaning set forth in Section 6.1(a)(i).

Warrant Exercise Amount means the product of the Fraction times 100% of the amount of cash received by Buyer or the Surviving Corporation upon a Warrant Exercise Event. (It is understood that net-exercise of a warrant will not be deemed to involve a Warrant Exercise Amount.)

Warrant Exercise Event means the receipt by Buyer or the Surviving Corporation of cash from the exercise, at any time after the Effective Time, of any common stock purchase warrants of Target which were outstanding as of the Effective Time.

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ARTICLE II

CONTINGENT VALUE RIGHTS

Section 2.1 Issuance of General CVRs; Appointment of Rights Agent.

(a) The General CVRs shall be issued pursuant to the Merger Agreement at the time and in the manner set forth in the Merger Agreement or pursuant to the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time.

(b) Buyer hereby appoints the Rights Agent to act as rights agent for Buyer in accordance with the express terms and conditions hereinafter set forth in this Agreement (and no implied terms or conditions), and the Rights Agent hereby accepts such appointment.

(c) To the extent permitted by applicable Legal Requirements, it is expressly agreed that in no event shall any Holders (as opposed to the Stockholders Representative) or any former stockholders of Target (as opposed to the Stockholders Representative) have, after the Effective Time, any power or right to commence or join in any Legal Proceeding based on or arising out of this Agreement or the Merger Agreement.

Section 2.2 Transferability.

At the option of a respective holder thereof, the General CVRs may be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, but only in accordance with Section 2.3 hereof and in compliance with all applicable Legal Requirements.

Section 2.3 No Certificate; Registration; Registration of Transfer; Change of Address.

(a) The General CVRs shall be issued in book-entry form only and shall not be evidenced by a certificate or other instrument.

(b) The Rights Agent shall keep a register (the **General CVR Register**) for the registration of General CVRs. The Rights Agent is hereby initially appointed General CVR registrar and transfer agent (**General CVR Registrar**) for the purpose of registering General CVRs and transfers of General CVRs as herein provided. Upon any change in the identity of the Rights Agent, the successor Rights Agent shall automatically also become the successor General CVR Registrar.

(c) Every request made to transfer a General CVR must be in writing and accompanied by a written instrument or instruments of transfer and any other documentation requested by Buyer or General CVR Registrar, in a form reasonably satisfactory to Buyer and the General CVR Registrar, properly completed and duly executed by the registered Holder or Holders thereof or by the duly appointed legal representative thereof or by a duly authorized attorney, such signature to be guaranteed by a participant in a recognized Signature Guarantee Medallion Program. Upon receipt of such written request and materials, and all other reasonably necessary information, the General CVR Registrar shall register the transfer of the General CVRs in the General CVR Register. All duly transferred General CVRs registered in the General CVR Register shall be the valid obligations of Buyer, evidencing the same right and shall entitle the transferee to the same benefits and rights under this Agreement, as those previously held by the transferor. No transfer of a General CVR shall be valid until registered in the General CVR Register, and any transfer not duly registered in the General CVR Register will not be honored by Buyer or the Rights Agent until it is so registered, and then it will be honored only prospectively. Any transfer or assignment of the General CVRs shall be without charge (other than the cost of any tax or charge that may be payable in respect of such transfer or assignment, which shall be the responsibility of the transferor) to the Holder. The Rights Agent shall have no duty or obligation under any Section of this Agreement that requires the payment of taxes or charges unless and until it is satisfied that such taxes and/or charges have been or will be paid.

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(d) A Holder may make a written request to the General CVR Registrar to change such Holder's address of record in the General CVR Register. The written request must be duly executed by the Holder and conform to such other reasonable requirements as the Rights Agent may from time to time establish. Upon receipt of such proper written request, the General CVR Registrar shall promptly record the change of address in the General CVR Register.

(e) Upon reasonable written request of the Stockholders' Representative, the Rights Agent shall (at the Stockholders' Representative's expense) promptly provide a copy of the General CVR Register to the Stockholders' Representative.

Section 2.4 Payment Procedures.

(a) Promptly following the occurrence of a General CVR Payment Event, but in no event later than five Business Days after the occurrence of a General CVR Payment Event, Buyer shall deliver to the Rights Agent and the Stockholders' Representative a certificate (the ***Achievement Certificate***), certifying that the Holders are entitled to receive a General CVR Payment Amount (and setting forth the calculation of such General CVR Payment Amount), and shall also deliver to the Rights Agent the indicated General CVR Payment Amount in cash. Until such Achievement Certificate is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that a General CVR Payment Event has not occurred. No transaction described in Section 6.1(a) hereof shall give the Holders the right to receive a General CVR Payment Amount. Such cash amount deposited with the Rights Agent shall, pending its disbursement to such holders, be invested by the Rights Agent in (i) direct obligations of the United States of America, (ii) obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest, or (iii) money market funds investing solely in a combination of the foregoing. Any interest and other income resulting from such investments shall be applied first to the satisfaction of the Rights Agent Fees and Expenses, and any remainder (the ***Remainder***) shall be paid to the Holders as set forth in Section 2.4(e) below. The Rights Agent must receive federal or other immediately available funds before 1:00 p.m., Eastern Time, on the funding date in order for such funds to be so invested on such date. Funds received after such time on the funding date will not be so invested until the following Business Day. Except as expressly provided above, the Rights Agent will not be obligated to calculate or pay interest to any Holder or any other party.

(b) If no General CVR Payment Event has occurred on or before the Outside Date, then, within five Business Days after the Outside Date, Buyer shall deliver to the Rights Agent and the Stockholders' Representative a certificate, stating that the General CVR Payment Event did not occur (the ***Non-Achievement Certificate***). Until such Non-Achievement Certificate is received by the Rights Agent, the Rights Agent shall have no duties or obligations with respect to the Outside Date, and the Rights Agent shall have no duties or obligations to monitor or determine the Outside Date.

(c) Subject to Section 5.16(a) of the Merger Agreement, within 45 calendar days after delivery by Buyer of a Non-Achievement Certificate or Achievement Certificate (the ***Objection Period***), the Stockholders' Representative may deliver a written notice to Buyer (with a copy to the Rights Agent) specifying that the Stockholders' Representative objects to (i) the determination of Buyer that no General CVR Payment Event occurred on or before the Outside Date or (ii) the calculation of the General CVR Payment Amount, as applicable (a ***Notice of Objection***), and stating the reason upon which the Stockholders' Representative has determined that (A) the General CVR Payment Event has occurred on or before the Outside Date or (B) the calculation of the General CVR Payment Amount is in error, as applicable. Any dispute arising from a Notice of Objection shall be resolved in accordance with the procedure set forth in Section 7.12, which decision shall be binding on the parties hereto and every Holder.

(d) If a Notice of Objection with respect to a Non-Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to receive the General CVR Payment Amount, and Buyer and the Rights Agent shall have no further obligations with respect to the General CVR Payment

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Amount. If a Notice of Objection with respect to an Achievement Certificate has not been delivered to Buyer within the Objection Period, then the Holders shall have no right to assert that the calculation of the General CVR Payment Amount is in error.

(e) If Buyer delivers an Achievement Certificate to the Rights Agent and the Stockholders Representative or if the General CVR Payment Amount is determined to be payable pursuant to Section 2.4(c) above, Buyer shall establish a General CVR Payment Date on the January 1 or July 1 which next follows the date of the Achievement Certificate or the date of final determination pursuant to Section 2.4(c) above, as applicable, and deliver written notice to the Rights Agent of such determination at least five (5) Business Days before such date. Until such notice is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that the General CVR Payment Date has not occurred. The Rights Agent shall have no duty or obligation to establish any payment amount or payment date with respect to the General CVR Payment Date. Upon receipt of such written notice and all other necessary information, the Rights Agent will, on such General CVR Payment Date, distribute the General CVR Payment Amount and the Remainder to the Holders (each Holder being entitled to receive its *pro rata* share of the General CVR Payment Amount and the Remainder based on the number of General CVRs held (as of the third Business Day before the General CVR Payment Date) by such Holder as reflected on the General CVR Register) by check mailed to the address of each such respective Holder as then reflected in the General CVR Register.

(f) Buyer shall be entitled to deduct and withhold, or cause to be deducted or withheld, from each General CVR Payment Amount otherwise payable pursuant to this Agreement, such amounts as Buyer or the applicable subsidiary of Buyer is required to deduct and withhold with respect to the making of such payment under the Internal Revenue Code, or any provision of state, local or foreign tax law. To the extent that amounts are so withheld or paid over to or deposited with the relevant governmental entity, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Holder in respect of which such deduction and withholding was made.

(g) On such date following the Outside Date as the holders of at least 20% of the outstanding General CVRs shall request via two Business Day prior written notice to the Stockholders Representative, the Stockholders Representative shall deliver to the Rights Agent in cash any amount remaining available in the Stockholders Representative Fund together with written instructions regarding the distribution of such amount (including the names and addresses of the applicable Holders and the breakdown of amounts to be distributed), and the Rights Agent will, within five Business Days of receipt of such instructions and amount (such date the ***Fund Distribution Date***), distribute such amount in accordance with such instructions to the Holders of the General CVRs, the Glucagon CVRs, the TR Beta CVRs and the Roche CVRs (each Holder being entitled to receive its *pro rata* share of such amount based on the number of General CVRs, Glucagon CVRs, TR Beta CVRs and Roche CVRs held (as of the Fund Distribution Date) by such Holder as reflected in the General CVR Register, the Glucagon CVR Register, the TR Beta CVR Register and the Roche CVR Register (as defined herein and in the Glucagon CVR Agreement, the TR Beta CVR Agreement and the Roche CVR Agreement) by check mailed to the address of each such respective Holder as reflected in the General CVR Register, the Glucagon CVR Register, the TR Beta CVR Register and the Roche CVR Register as of the Close of Business on the last Business Day before the Fund Distribution Date. Until such written instructions are received by the Rights Agent, the Rights Agent shall not be obligated to take any action with respect to this paragraph. After the Fund Distribution Date, the Stockholders Representative shall be relieved of any and all duties and obligations under the Merger Agreement or any of the CVR Agreements.

(h) Subject to prior execution and delivery by the Stockholders Representative to Buyer and Target of a reasonable and customary confidentiality/nonuse agreement, Buyer shall promptly furnish to the Stockholders Representative all information and documentation in connection with this Agreement and the General CVRs that the Stockholders Representative may reasonably request in connection with the determination of whether a General CVR Payment Event has occurred or whether the calculation of a General CVR Payment Amount is in error, as applicable. Subject to prior execution and delivery by the applicable Holders to Buyer and Target of a

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reasonable and customary confidentiality/nonuse agreement, the Stockholders Representative may forward any information and documentation it receives to the Holders who request such information, but the Stockholders Representative covenants and agrees that in no event shall the Stockholders Representative provide any such information or documentation to any Holder who (i) is a Competitor of Buyer or (ii) holds fewer than 1% of the total number of General CVRs.

Section 2.5 No Voting, Dividends or Interest; No Equity or Ownership Interest in Buyer.

(a) The General CVRs shall not have any voting or dividend rights, and interest shall not accrue on any amounts payable on the General CVRs to any Holder.

(b) The CVRs shall not represent any equity or ownership interest in Buyer (or in any constituent company to the Merger) or in any drug development program or Intellectual Property or other asset. The rights of the holders of General CVRs are limited to those expressly set forth in this Agreement, and such holders sole right to receive property hereunder is the right to receive cash from Buyer through the Rights Agent in accordance with the terms hereof.

Section 2.6 Sole Discretion and Decision Making Authority; No Fiduciary Duty.

Notwithstanding anything contained herein to the contrary, Buyer shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, (a) over any continued operation of, development of or investment in any or all of the General Programs, (b) over when (if ever) and whether to pursue, or enter into, a licensing agreement and/or sale agreement and/or similar transfer agreement and/or agreement for the grant of an option to enter into any such transaction with respect to a drug candidate or technology or Intellectual Property from any or all of the General Programs, the 7133 Program or the QM/MM Technology, and upon what terms and conditions, and (c) over resolution of any third party claims relating to Contingent Payments. Without limitation, in no event shall declining to effect a General Licensing Option Event, a General Licensing Event, a General Sale Option Event, a General Sale Event, a 7133 Event, a PeriCor Event or a QM/MM Event on terms and conditions that create a commercially unreasonable risk of liability on the part of Buyer be deemed not to satisfy the in good faith and with commercial reasonableness standard.

Section 2.7 Satisfaction of Contingent Payments. Notwithstanding anything herein to the contrary:

(a) It is understood that upon the occurrence of certain payment events under this Agreement and the other CVR Agreements, the Landlord may be entitled to payments pursuant to the terms of Section 10 of the Landlord Agreement and the employees that were terminated in Target's May 2009 reduction in force may be entitled to contingent severance payments pursuant to their respective severance arrangements (together, and including any payments to resolve claims arising in connection therewith, the *Contingent Payments*).

(b) In general, such Contingent Payments are to be satisfied first from amounts otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event, but in some instances the full amount payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be less than the Contingent Payments owing in respect of such payment event.

(c) In each case described in Section 2.7(b) above, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such payment event will be paid by Buyer directly to the beneficiaries of the Contingent Payments rather than to or for the benefit of the holders of the CVRs under the applicable CVR Agreement, and the remainder of the Contingent Payments owing in respect of such payment event (the *Excess*) shall be paid by Buyer directly to the beneficiaries of the Contingent Payments.

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(d) If an Excess is paid by Buyer pursuant to Section 2.7(c) of this Agreement or of any of the other CVR Agreements, then upon the next payment event under this Agreement or under any of the other CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid), Buyer shall withhold from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event, and shall keep for Buyer's own account to reimburse Buyer for having paid the Excess, an amount equal to 100% of the Excess (or, if less, 100% of the amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of such (new) payment event). If Buyer is not thereby reimbursed for the entire Excess, the shortfall shall be rolled forward to be satisfied in the same manner by withholding from any amount otherwise payable for the benefit of the holders of the CVRs under the applicable CVR Agreement in respect of the next-to-occur payment event under any one of the CVR Agreements (even if not the same CVR Agreement in connection with which the Excess was paid or in connection with which the Excess was partially satisfied).

ARTICLE III

THE RIGHTS AGENT

Section 3.1 Certain Duties and Responsibilities.

The Rights Agent shall be authorized and protected and shall not have any liability for, or in respect of any actions taken, suffered or omitted to be taken by it in connection with its acceptance and administration of this Agreement and the exercise and performance of its duties hereunder, except to the extent of its own willful misconduct, bad faith or gross negligence (each as determined by a final, non-appealable judgment of a court of competent jurisdiction). No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers.

Section 3.2 Certain Rights of Rights Agent.

The Rights Agent undertakes to perform such duties and only such duties as are specifically set forth in this Agreement, and no implied covenants or obligations shall be read into this Agreement against the Rights Agent. In addition:

(a) the Rights Agent may rely and shall be authorized and protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, power of attorney, endorsement, affidavit, letter or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties. The Rights Agent shall not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder but as to which no notice was provided, and the Rights Agent shall be fully protected and shall incur no liability for failing to take any action in connection therewith unless and until it has received such notice;

(b) whenever the Rights Agent shall deem it necessary or desirable that any fact or matter be proved or established by Buyer before taking, suffering or omitting to take any action hereunder, the Rights Agent may, in the absence of willful misconduct, bad faith or gross negligence on its part (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), request and rely upon an Officer's Certificate from Buyer with respect to such fact or matter; and such certificate shall be full and complete authorization and protection to the Rights Agent and the Rights Agent shall incur no liability for or in respect of any action taken, suffered or omitted to be taken by it under the provisions of this Agreement in reliance upon such certificate. The Rights Agent shall be fully authorized and protected in relying upon the most recent instructions received from Buyer. In the event the Rights Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Rights Agent hereunder, the Rights Agent, may, in its sole discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to Buyer or any other

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person or entity for refraining from taking such action, unless the Rights Agent receives written instructions from Buyer that eliminates such ambiguity or uncertainty to the satisfaction of the Rights Agent;

(c) the Rights Agent may engage and consult with counsel of its selection (who may be legal counsel for Buyer and/or an employee of the Rights Agent) and the advice of such counsel or any opinion of counsel shall be full and complete authorization and protection to the Rights Agent in respect of any action taken, suffered or omitted to be taken by it hereunder in reliance thereon in the absence of willful misconduct, bad faith or gross negligence on the part of the Rights Agent (as determined by a final, non-appealable judgment of a court of competent jurisdiction);

(d) in the event of arbitration, the Rights Agent may engage and consult with tax experts, valuation firms and other experts and third parties that it, in its sole and absolute discretion, deems appropriate or necessary to enable it to discharge its duties hereunder;

(e) the permissive rights of the Rights Agent to do things enumerated in this Agreement shall not be construed as a duty;

(f) the Rights Agent shall not be required to give any note or surety in respect of the execution of such powers or otherwise in respect of the premises;

(g) Buyer agrees to indemnify the Rights Agent for, and hold the Rights Agent harmless against, any loss, liability, damage, judgment, fine, penalty, claim, demand, suit, settlement, cost or expense (including, without limitation, the fees and expenses of legal counsel), incurred without willful misconduct, bad faith or gross negligence on the part of the Rights Agent (each as determined by a final, non-appealable judgment of a court of competent jurisdiction), for any action taken, suffered or omitted to be taken by the Rights Agent in connection with the acceptance and administration of this Agreement, or the exercise or performance of its duties hereunder, including without limitation, the costs and expenses of defending against any claim of liability hereunder, directly or indirectly. The costs and expenses incurred in enforcing this right of indemnification shall be paid by Buyer. The provisions of this Article 3 shall survive the termination of this Agreement, the payment of any distributions made pursuant to this Agreement, and the resignation, replacement or removal of the Rights Agent hereunder, including, without limitation, the costs and expenses of defending a claim of liability hereunder;

(h) Except as paid pursuant to Section 2.4(a) of this Agreement, Buyer agrees to pay the Rights Agent Fees and Expenses in connection with this Agreement, as set forth on Schedule 1 hereto, and further including reimbursement of the Rights Agent for all taxes and charges, reasonable expenses and other charges of any kind and nature incurred by the Rights Agent in the execution of this Agreement (other than taxes measured by the Rights Agent's net income) and reimbursement for all reasonable and necessary out-of-pocket expenses (including reasonable fees and expenses of the Rights Agent's counsel and agent) paid or incurred by it in connection with the preparation, negotiation, delivery, amendment, administration and execution by the Rights Agent of this Agreement and its duties hereunder;

(i) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by Buyer only;

(j) The Rights Agent shall not have any liability for or be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof; nor shall it be responsible for any breach by Buyer of any covenant or failure by Buyer to satisfy conditions contained in this Agreement;

(k) Buyer agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of its duties under this Agreement;

(l) The Rights Agent and any stockholder, affiliate, director, officer, employee or agent of the Rights Agent may buy, sell or deal in any of the Rights or other securities of Buyer or become pecuniarily interested in any transaction in which Buyer may be interested, or contract with or lend money to Buyer or

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otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent or any stockholder, affiliate, director, officer, employee or agent from acting in any other capacity for Buyer or for any other Person; and

(m) The Rights Agent shall not be subject to, nor be required to comply with, or determine if any person or entity has complied with, the Merger Agreement or any other agreement between or among any of Buyer, Target, Stockholders Representative or any other parties hereto, even though reference thereto may be made in this Agreement, or to comply with any notice, instruction, direction, request or other communication, paper or document other than as expressly set forth in this Agreement.

Section 3.3 Resignation and Removal; Appointment of Successor.

(a) The Rights Agent may resign and be discharged from its duties at any time by giving written notice thereof to Buyer and the Stockholders Representative specifying a date when such resignation shall take effect, which notice shall be sent at least 30 days before the date so specified.

(b) If the Rights Agent shall resign, be removed or become incapable of acting, Buyer, by way of a Board Resolution, shall promptly appoint a qualified successor Rights Agent who may (but need not) be a Holder but shall not be an officer of Buyer. The successor Rights Agent so appointed shall, forthwith upon its acceptance of such appointment in accordance with this Section 3.3(b), become the successor Rights Agent.

(c) Buyer shall give notice to the Stockholders Representative of each resignation and each removal of a Rights Agent and each appointment of a successor Rights Agent. Such notice shall include the name and address of the successor Rights Agent. If Buyer fails to send such notice within ten days after acceptance of appointment by a successor Rights Agent, the successor Rights Agent shall cause such notice to be mailed at the expense of Buyer.

Section 3.4 Acceptance of Appointment by Successor.

Every successor Rights Agent appointed hereunder shall execute, acknowledge and deliver to Buyer, the Stockholders Representative and the retiring Rights Agent an instrument accepting such appointment and a counterpart of this Agreement, and thereupon such successor Rights Agent, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Rights Agent; provided, that upon the request of Buyer, the Stockholders Representative or the successor Rights Agent, such retiring Rights Agent shall execute and deliver an instrument transferring to such successor Rights Agent all the rights, powers and trusts of the retiring Rights Agent and shall cooperate in the transfer of all relevant data, including the General CVR Register, to the successor Rights Agent.

ARTICLE IV

COVENANTS

Section 4.1 List of Holders.

Buyer shall furnish or cause to be furnished to the Rights Agent in such form as Buyer receives from its transfer agent (or other agent performing similar services for Buyer), the names, addresses and General CVR holdings of the Holders, within five Business Days after the effective time of the Merger. Buyer shall furnish or cause to be furnished supplementally to the Rights Agent the names, addresses and General CVR holdings of any persons acquiring General CVRs upon the exercise of Target common stock purchase warrants which were outstanding as of the Effective Time, forthwith after each such exercise.

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Section 4.2 Payment of General CVR Payment Amount.

Buyer shall duly and promptly pay the General CVR Payment Amount, if any, in immediately available funds, to the Rights Agent to be distributed to the Holders in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. The Rights Agent shall have no liability of any kind, and shall not be obligated to make any payments, unless and until it receives the General CVR Payment Amount from Buyer.

Section 4.3 Assignments.

Buyer shall not, in whole or in part, assign any of its obligations under this Agreement other than in accordance with the terms of Section 6.1 hereof.

Section 4.4 Availability of Information.

(a) Buyer will comply with all applicable periodic public information reporting requirements of the SEC to which it may from time to time be subject. Buyer will provide to the Rights Agent all information in connection with this Agreement and the General CVRs that the Rights Agent may reasonably request.

ARTICLE V

AMENDMENTS

Section 5.1 Amendments Without Consent of Stockholders Representative/ Holders.

(a) Without the consent of the Stockholders Representative or any Holders or the Rights Agent, Buyer, when authorized by a Board Resolution, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person to Buyer and the assumption by any such successor of the covenants of Buyer herein in a transaction contemplated by Section 6.1 hereof; or

(ii) to evidence the termination of the General CVR Registrar and the succession of another Person as a successor General CVR Registrar and the assumption by any successor of the obligations of the General CVR Registrar herein.

(b) Without the consent of the Stockholders Representative or any Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent, in the Rights Agent's sole and absolute discretion, at any time and from time to time, may enter into one or more amendments hereto, for any of the following purposes:

(i) to evidence the succession of another Person as a successor Rights Agent and the assumption by any successor of the covenants and obligations of the Rights Agent herein;

(ii) to add to the covenants of Buyer such further covenants, restrictions, conditions or provisions as the Board of Directors shall consider to be for the protection of the Holders; provided, that in each case, such provisions shall not adversely affect the interests of the Holders;

(iii) to cure any ambiguity, to correct or supplement any provision herein that may be defective or inconsistent with any other provision herein, or to make any other provisions with respect to matters or questions arising under this Agreement; provided, that in each case, such provisions shall not adversely affect the interests of the Holders; or

(iv) to add, eliminate or change any provision of this Agreement unless such addition, elimination or change is adverse to the interests of the Holders and/or to the interests of the Stockholders Representative.

(c) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.1, Buyer shall so notify the Stockholders Representative in writing.

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Section 5.2 Amendments With Consent of Stockholders Representative or Holders.

(a) Subject to Section 5.1 (which amendments pursuant to Section 5.1 may be made without the consent of the Holders), with the consent of the Stockholders Representative or of the Holders of not less than a majority of the outstanding General CVRs, whether evidenced in writing or taken at a meeting of the Holders, Buyer, when authorized by a Board Resolution, and the Rights Agent may enter into one or more amendments hereto for the purpose of adding, eliminating or changing any provisions of this Agreement, even if such addition, elimination or change is in any way adverse to the interests of the Holders and/or to the interests of the Stockholders Representative. Any such amendment shall be fully valid even if such amendment is signed only by Buyer and the Rights Agent.

(b) Promptly after the execution by Buyer and the Rights Agent of any amendment pursuant to the provisions of this Section 5.2, Buyer shall mail a notice thereof by first-class mail to the Holders at their addresses as they shall appear on the General CVR Register, setting forth in general terms the substance of such amendment.

Section 5.3 Execution of Amendments.

Before executing any amendment permitted by this Article V, the Rights Agent shall be entitled to receive, and shall be fully protected in relying upon, an opinion of counsel stating that the execution of such amendment is authorized or permitted by this Agreement, and that all consents, if any, have been obtained in accordance with Section 5.2. The Rights Agent may, but is not obligated to, enter into any such amendment that affects the Rights Agent's own rights, privileges, covenants, immunities, obligations or duties under this Agreement or otherwise.

Section 5.4 Effect of Amendments.

Upon the execution of any amendment under this Article V, this Agreement shall be modified in accordance therewith, such amendment shall form a part of this Agreement for all purposes and the Stockholders Representative and every Holder shall be bound thereby.

ARTICLE VI

CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 6.1 Buyer May Consolidate, Etc.

(a) Buyer shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

(i) the Person formed by such consolidation or into which Buyer is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of Buyer substantially as an entirety (the *Surviving Person*) shall expressly assume payment (if and to the extent required hereunder) of amounts on all the General CVRs and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed; and

(ii) Buyer has delivered to the Rights Agent an Officer's Certificate, stating that such consolidation, merger, conveyance, transfer or lease complies with this Article VI and that all conditions precedent herein provided for relating to such transaction have been complied with.

(b) In the event Buyer conveys, transfers or leases its properties and assets substantially as an entirety in accordance with the terms and conditions of this Section 6.1, Buyer and the Surviving Person shall be jointly and severally liable for the payment of the General CVR Payment Amount and the performance of every duty and covenant of this Agreement on the part of Buyer to be performed or observed.

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Section 6.2 Successor Substituted.

Upon any consolidation of or merger by Buyer with or into any other Person, or any conveyance, transfer or lease of the properties and assets substantially as an entirety to any Person in accordance with Section 6.1, the Surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, Buyer under this Agreement with the same effect as if the Surviving Person had been named as Buyer herein, and thereafter the predecessor Person shall be relieved of all obligations and covenants under this Agreement and the General CVRs.

ARTICLE VII

OTHER PROVISIONS OF GENERAL APPLICATION

Section 7.1 Notices to Rights Agent and Buyer.

Any request, demand, authorization, direction, notice, consent, waiver or other document provided or permitted by this Agreement shall be sufficient for every purpose hereunder if in writing and delivered personally, or sent by email or sent by certified or registered mail (return receipt requested and first-class postage prepaid) or sent by a nationally recognized overnight courier (with proof of service), addressed as follows, and shall be deemed to have been given upon receipt:

(a) if to the Rights Agent, addressed to it at Mellon Investor Services LLC, 400 S. Hope Street, 4th Floor, Los Angeles, CA 90071, Attn: Mark Cano, or at any other address previously furnished in writing to the Stockholders Representative and Buyer by the Rights Agent in accordance with this Section 7.1 and Section 7.2, with a copy to Mellon Investor Services LLC, 480 Washington Boulevard, Jersey City, NJ 07310, Attn: Legal Department; or

(b) if to Buyer, addressed to it at 10275 Science Center Drive, San Diego, California 92121, email at jhiggins@ligand.com, or at any other address previously furnished in writing to the Rights Agent and the Stockholders Representative by Buyer in accordance with this Section 7.1 and Section 7.2.

Section 7.2 Notice to Holders or Stockholders Representative.

Where this Agreement provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid, to each Holder affected by such event, at his, her or its address as it appears in the General CVR Register, not later than the latest date, and not earlier than the earliest date, prescribed for the giving of such notice. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Agreement provides for notice to the Stockholders Representative, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and personally delivered or sent by email or sent by a nationally recognized overnight courier (with proof of service) or mailed, first-class postage prepaid, to the Stockholders Representative at 1042-B N. El Camino Real, Suite 430, Encinitas, CA 92024, email at dfhale@biopharmaventures.com, or at any other address previously furnished in writing to the Rights Agent and Buyer by the Stockholders Representative in accordance with Section 7.1 and this Section 7.2. Notwithstanding anything contained herein to the contrary, the information set forth in any notices delivered by Buyer hereunder related to a General CVR Payment Event or an amendment to this Agreement pursuant to Article V hereof and provided solely to the Stockholders Representative (or a summary of such information) shall also be reported by Buyer on a Form 8-K, 10-Q or 10-K of Buyer filed with the SEC.

Section 7.3 Effect of Headings.

The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

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Section 7.4 Successors and Assigns.

All covenants and agreements in this Agreement by Buyer shall bind its successors and assigns, whether so expressed or not.

Section 7.5 Benefits of Agreement.

Nothing in this Agreement, express or implied, shall give to any Person (other than the parties hereto, the Holders and their permitted successors and assigns hereunder) any benefit or any legal or equitable right, remedy or claim under this Agreement or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto, the Holders and their permitted successors and assigns. The Holders shall have no rights or remedies hereunder except as expressly set forth herein.

Section 7.6 Governing Law.

This Agreement and the General CVRs shall be governed by and construed in accordance with the laws of the State of California without regards to its rules of conflicts of laws; provided, however, that all provisions, regarding the rights, duties, obligations and liabilities of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed entirely within such State.

Section 7.7 Legal Holidays.

In the event that a General CVR Payment Date shall not be a Business Day, then, notwithstanding any provision of this Agreement to the contrary, any payment required to be made in respect of the General CVRs on such date need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the General CVR Payment Date.

Section 7.8 Severability Clause.

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein; provided, however, that if any such excluded term, provision, covenant or restriction shall adversely affect the rights, immunities, duties or obligations of the Rights Agent, the Rights Agent shall be entitled to resign immediately. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

Section 7.9 Counterparts.

This Agreement may be signed in any number of counterparts (which may be effectively delivered by facsimile or other electronic means), each of which shall be deemed to constitute but one and the same instrument.

Section 7.10 Termination.

This Agreement shall terminate and be of no further force or effect, and the parties hereto shall have no liability hereunder, on the first day after the Outside Date on which no further dispute is possible. A dispute shall be considered possible if an Objection Period is in progress, or if a Section 7.12 process is in progress, or if any payment or other obligation required pursuant to a final determination made in accordance with Section 7.12 has not yet occurred.

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Section 7.11 Entire Agreement.

As it relates to the Rights Agent, this Agreement represents the entire understanding of the parties hereto with reference to the General CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the General CVRs. As it relates to all other parties hereto, this Agreement and the Merger Agreement represent the entire understanding of the parties hereto with reference to the General CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the General CVRs, except for the Merger Agreement. If and to the extent that any provision of this Agreement is inconsistent or conflicts with the Merger Agreement, this Agreement shall govern and be controlling.

Section 7.12 Negotiation; Arbitration.

(a) Before any arbitration pursuant to Section 7.12(b), Buyer and (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative shall negotiate in good faith for a period of 30 days to resolve any controversy or claim arising out of or relating to this Agreement or the breach thereof.

(b) After expiration of the 30-day period contemplated by Section 7.12(a), such controversy or claim, including any claims for breach of this Agreement, shall be settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. Buyer and/or (subject to Section 5.16(a) of the Merger Agreement) the Stockholders Representative may initiate an arbitration for any matter relating to this Agreement. However, in the event of a dispute arising from the delivery of a Notice of Objection, the sole matter to be settled by arbitration shall be whether a General CVR Payment Event has occurred on or before the Outside Date or whether the calculation of the General CVR Payment Amount is in error, as applicable. The number of arbitrators shall be three. Within 15 days after the commencement of arbitration, each party shall select one person to act as arbitrator, and the two selected shall select a third arbitrator within 15 days of their appointment. If the arbitrators selected by the parties are unable or fail to agree upon the third arbitrator, the third arbitrator shall be selected by the American Arbitration Association. The place of the arbitration shall be San Diego, California. The arbitrators shall be lawyers or retired judges with experience in the life sciences industry and with mergers and acquisitions. Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both parties. Any award payable in favor of the Holders or the Stockholders Representative as a result of arbitration shall be paid by Buyer to the Rights Agents to be distributed to the Holders on the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Buyer and Stockholders Representative shall pay in equal halves all fees and expenses of the arbitration forum, including the costs and expenses billed by the arbitrators in connection with the performance of their duties described herein; provided, however, that if the arbitrators rule in favor of Buyer, an amount equal to the half of the arbitrators fees and expenses paid by Buyer shall be offset against the soonest General CVR Payment Amount(s), if any, or any payment to be made thereafter under any of the other CVR Agreements, and if the arbitrators rule in favor of the Holders or the Stockholders Representative, an amount equal to the half of the arbitrators fees and expenses paid by the Stockholders Representative shall be paid by Buyer to the Rights Agent to be distributed to the Holders on the next January 1 or July 1, in the manner provided for in Section 2.4 and in accordance with the terms of this Agreement. Each party to the arbitration (which, for the avoidance of doubt, shall not include the Rights Agent) shall be responsible for its own attorney fees, expenses and costs of investigation.

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IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

LIGAND PHARMACEUTICALS INCORPORATED

By:
Name:
Title:

METABASIS THERAPEUTICS, INC.

By:
Name:
Title:

**MELLON INVESTOR SERVICES LLC, as Rights
Agent**

By:
Name: Mark Cano
Title: Relationship Manager

DAVID F. HALE, as Stockholders Representative

By:

E-21

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Annex F

Section 262 of the General Corporation Law of the State of Delaware

§ 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 stock corporation and also a member of record of a nonstock corporation; the words "stock" and "share" mean and include what is ordinarily meant by those words and also membership or membership interest of a member of a nonstock corporation; and the words "depository receipt" mean a receipt or other instrument issued by a depository representing an interest in one 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), § 252, § 254, § 257, § 258, § 263 or § 264 of this title:

(1) Provided, however, that 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 (1) of this subsection, 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, 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 subparagraphs a. and b. of this paragraph; 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 subparagraphs a., b. and c. of this paragraph.

(3) In the event all of the stock of a subsidiary Delaware corporation party to a merger effected under § 253 of this title is not owned by the parent corporation immediately prior to the merger, appraisal rights shall be available for the shares of the subsidiary Delaware corporation.

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(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 with respect to shares for which appraisal rights are available pursuant to subsection (b) or (c) hereof 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. 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 or § 253 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. 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, 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, 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.

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(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

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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.

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Annex G

MERRIMAN

CURHAN

FORD

October 26, 2009

Board of Directors

Metabasis Therapeutics, Inc.

11119 North Torrey Pines Road

La Jolla, California 92037

Ladies and Gentlemen:

You have requested our opinion as to the fairness, from a financial point of view, to the holders of the common stock of Metabasis Therapeutics, Inc. (the Company) of the Consideration (as defined below) to be received by such stockholders pursuant to the terms of the proposed Agreement and Plan of Merger (the Merger Agreement) to be entered into by and among Ligand Pharmaceuticals Incorporated (Ligand), Moonstone Acquisition, Inc., a wholly owned subsidiary of Ligand (Merger Sub), the Company and David F. Hale as Stockholders Representative.

As more specifically set forth in the Merger Agreement, and subject to the terms, conditions and adjustments set forth therein, the Merger Agreement provides for the acquisition of the Company by Ligand through the merger of Merger Sub with and into the Company with the Company as the surviving entity thereof (the Merger). By virtue of the Merger, each share of common stock issued and outstanding as of the effective time of the Merger (other than shares held by Ligand, the Company or any of their wholly owned subsidiaries and any Dissenting Shares (as defined in the Merger Agreement) will be converted into the right to receive (i) approximately \$0.05 per share in cash (subject to adjustment) and (ii) certain contingent value rights (the CVRs) (collectively, the Consideration).

In connection with our review of the proposed Merger, and in arriving at our opinion, we have: (i) reviewed a draft of the Merger Agreement dated October 24 2009, as well as a draft, dated October 24, 2009, of the form of agreement pursuant to which the CVRs will be issued (collectively, the Draft Transaction Documents); (ii) reviewed certain financial information regarding the Company's historical and projected financial performance provided to us by management, (iii) reviewed certain publicly available information concerning the Company; (iv) conducted interviews with members of current and former senior management concerning the matters described in clauses (ii) and (iii) above; (v) reviewed certain publicly available information regarding companies and transactions we deemed to be comparable, and (vi) reviewed such other financial studies and analyses and conducted such other investigations as we deemed necessary or appropriate for the purpose of rendering our opinion.

We have relied upon and assumed, without assuming liability or responsibility for independent verification, the accuracy and completeness of all information that was publicly available or was furnished, or otherwise made available, to us or discussed with or reviewed by or for us. We have further assumed that the financial information provided has been prepared on a reasonable basis in accordance with industry practice, and that management of the Company is not aware of any information or facts that would make any information provided to us incomplete or misleading. Without limiting the generality of the foregoing, for the purpose of this opinion, we have assumed that with respect to financial forecasts, estimates and other forward-looking information reviewed by us, that such information has been reasonably prepared based on assumptions reflecting the best currently available estimates and judgments of the management of the Company as to the expected future results of operations and financial condition of the Company. We express no opinion as to any such financial forecasts, estimates or forward-looking information or the assumptions on which they were based.

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In connection with our opinion, we have assumed and relied upon, without independent verification, the accuracy and completeness of all of the financial, legal, regulatory, tax, accounting and other information provided to, discussed with or reviewed by us. Our opinion does not address any legal, regulatory, tax or accounting issues.

In arriving at our opinion, we have assumed that the executed documents for the Merger (the Transaction Documents) will be in all material respects identical to the Draft Transaction Documents reviewed by us. We have relied upon and assumed, without independent verification, that (i) the representations and warranties of all parties set forth in the Transaction Documents and all related documents and instruments that are referred to therein are true and correct, (ii) each party to the Transaction Documents will fully and timely perform all of the covenants and agreements required to be performed by such party, (iii) the Merger will be consummated pursuant to the terms of the Transaction Documents without amendments thereto and (iv) all conditions to the consummation of the Merger will be satisfied without waiver by any party of any conditions or obligations thereunder. Additionally, we have assumed that all the necessary regulatory approvals and consents required for the Merger, including the approval of the stockholders of the Company, will be obtained in a manner that will not adversely affect the Company or the contemplated benefits of the Merger.

In arriving at our opinion, we have not performed any appraisals or valuations of any specific assets or liabilities (fixed, contingent or other) of the Company, and have not been furnished or provided with any such appraisals or valuations, nor have we evaluated the solvency of the Company under any state or federal law relating to bankruptcy, insolvency or similar matters. The analyses performed by us in connection with this opinion were going concern analyses. We express no opinion regarding the liquidation value of the Company or any other entity or the ability of the Company to operate as a going concern, whether or not the Merger is consummated. Without limiting the generality of the foregoing, we have undertaken no independent analysis of any pending or threatened litigation, regulatory action, possible unasserted claims or other contingent liabilities, to which the Company or any of its affiliates is a party or may be subject, and at the direction of the Company and with its consent, our opinion makes no assumption concerning, and therefore does not consider, the possible assertion of claims, outcomes or damages arising out of any such matters.

This opinion is necessarily based upon the information available to us and facts and circumstances as they exist and are subject to evaluation on the date hereof; events occurring after the date hereof could materially affect the assumptions used in preparing this opinion. We are not expressing any opinion herein as to the price at which shares of Common Stock may trade following announcement of the Merger or at any future time or as to the price at which the CVRs may trade at any time after their issuance. We have not undertaken to reaffirm or revise this opinion or otherwise comment upon any events occurring after the date hereof and do not have any obligation to update, revise or reaffirm this opinion.

We have been engaged by the Company to act as its financial advisor and we will receive a fee from the Company for providing such services, including the provision of this opinion. Our fee is not contingent upon the consummation of the Merger. The Company has also agreed to indemnify us against certain liabilities and reimburse us for certain expenses in connection with our services. In the future, we may also provide other financial advisory and investment banking services to the Company and its affiliates, including Ligand, for which we would expect to receive compensation. In addition, in the ordinary course of our business, we and our affiliates may actively trade securities of the Company and/or Ligand for our own account or the account of our customers and, accordingly, may at any time hold a long or short position in such securities.

Consistent with applicable legal and regulatory requirements, Merriman Curhan Ford & Co. has adopted policies and procedures to establish and maintain the independence of our research departments and personnel. As a result, our research analysts may hold views, make statements or investment recommendations and/or publish research reports with respect to the Company, Ligand and/or the Merger that differ from the views of our investment banking personnel.

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This opinion has been prepared solely for the information of the Board of Directors of the Company for its use in connection with its consideration of the Merger and is not intended to be and does not constitute a recommendation to any stockholder of the Company as to how such stockholder should vote on any matter relating to the Merger or any other matter. Except with respect to the inclusion of this opinion in the Company's proxy statement relating to the Merger in accordance with our engagement letter with the Company, this opinion shall not be disclosed, referred to, published or otherwise used (in whole or in part), nor shall any public references to us be made, without our prior written approval. This opinion has been approved for issuance by the Merriman Curhan Ford & Co. Fairness Opinion Committee.

This opinion addresses only the fairness, from a financial point of view, to the common stockholders of the Company of the proposed Consideration to be received by such stockholders in the Merger and does not address the relative merits of the Merger or any alternatives to the Merger, the Company's underlying decision to proceed with or effect the Merger, or any other aspect of the Merger. This opinion does not address the fairness of the Merger to the holders of any other class of securities, creditors or other constituencies of the Company. This opinion is not a valuation of the Company or its assets or any class of securities of the Company. We have not evaluated the solvency or fair value of the Company. We are not experts in, nor do we express an opinion on, legal, tax, accounting or regulatory issues. We do not express an opinion about the fairness of the amount or nature of any compensation payable or to be paid to any of the officers, directors or employees, of the Company, whether or not relative to the Merger.

Based upon and subject to the foregoing, it is our opinion that, as of the date hereof, the Consideration to be received by the common stockholders of the Company in the Merger is fair, from a financial point of view, to such stockholders.

Sincerely,

/s/ Merriman Curhan Ford & Co.

Merriman Curhan Ford & Co.

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 20. INDEMNIFICATION OF DIRECTORS AND OFFICERS

As permitted by Section 102 of the Delaware General Corporation Law, Ligand has adopted provisions in its certificate of incorporation and Bylaws that limit or eliminate the personal liability of its directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to Ligand or its stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for: any breach of the director's duty of loyalty to Ligand or its stockholders; any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law; any act related to unlawful stock repurchases, redemptions or other distributions or payment of dividends; or any transaction from which the director derived an improper personal benefit.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission. As permitted by Section 145 of the Delaware General Corporation Law, the certificates of incorporation and Bylaws to be in effect upon the closing of this offering provide that: Ligand may indemnify its directors, officers, employees and agents to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions; Ligand may advance expenses to its directors and officers in connection with a legal proceeding to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions; and the rights provided in the certificates of incorporation and Bylaws are not exclusive.

In addition, Ligand has entered into separate indemnification agreements with its directors and officers which may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements may require Ligand, among other things, to indemnify its officers and directors against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct. These indemnification agreements also may require Ligand to advance any expenses incurred by the directors or officers as a result of any proceeding against them as to which they could be indemnified. In addition, Ligand has purchased a policy of directors and officers liability insurance that insures its directors and officers against the cost of defense, settlement or payment of a judgment in some circumstances. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of Ligand's officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act.

In addition, for a period of six years following the effective time of the merger, Ligand will cause the surviving entity and its subsidiaries to fulfill and honor the obligations of Metabasis and its subsidiaries pursuant to each indemnification agreement in effect on the date of the merger agreement between Metabasis or any of its subsidiaries and each present or former director and officer of Metabasis and any indemnification provision and any exculpation provision in favor of each present or former director and officer of Metabasis that is set forth in the certificate of incorporation or bylaws of Metabasis and the equivalent organizational documents of any Metabasis subsidiary in effect as of the date of the merger agreement. The certificate of incorporation and bylaws of the surviving entity shall contain the provisions with respect to indemnification and exculpation from liability set forth in Metabasis' certificate of incorporation and bylaws on the date of the merger agreement, and, from and after the effective time of the merger, such provisions shall not be amended, repealed or otherwise modified in any manner that could adversely affect the rights thereunder of any individual who is or was an officer or director of Metabasis at any time on or before the effective time of the merger.

Ligand will indemnify and hold harmless the present and former directors and officers of Metabasis against all liabilities arising out of the actions or omissions of such person's service, including the advancement of certain expenses, for a period of six years following the effective time of the merger or for claims for which a written notice asserting such claim for indemnification before the sixth anniversary of the effective time until such time as such claim is fully and finally resolved.

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In addition, for a period of six years following the effective time of the merger, Ligand will cause the surviving entity to maintain in effect the current level and similar scope of directors' and officers' liability insurance coverage, provided that the surviving entity shall not be obligated to expend in any one year an amount in excess of \$60,000.

ITEM 21. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Exhibits

Exhibit**Number****Exhibit Description**

- | Number | Exhibit Description |
|---------------|--|
| 2.1 | Agreement and Plan of Merger, dated as of October 26, 2009 (and as amended), by and among Ligand Pharmaceuticals Incorporated, Metabasis Therapeutics, Inc., Moonstone Acquisition, Inc. and Metabasis' stockholders' representative (included as <i>Annex A</i> to the proxy statement/prospectus). |
| 2.2 | Form of Roche Contingent Value Rights Agreement (included as <i>Annex B</i> to the proxy statement/prospectus). |
| 2.3 | Form of TR Beta Contingent Value Rights Agreement (included as <i>Annex C</i> to the proxy statement/prospectus). |
| 2.4 | Form of Glucagon Contingent Value Rights Agreement (included as <i>Annex D</i> to the proxy statement/prospectus). |
| 2.5 | Form of General Contingent Value Rights Agreement (included as <i>Annex E</i> to the proxy statement/prospectus). |
| 3.1 | Amended and Restated Certificate of Incorporation of Ligand Pharmaceuticals Incorporated dated May 17, 1995 (incorporated by reference to Exhibit 3.2 of Ligand Pharmaceuticals Incorporated's Registration Statement on Form S-4 (No. 333-58823) filed with the SEC on July 9, 1998), as amended by a Certificate of Amendment of Amended and Restated Certificate of Incorporation dated June 13, 2000 (incorporated by reference to Exhibit 3.5 of Ligand Pharmaceuticals Incorporated's Annual Report on Form 10-K for the year ended December 31, 2000), and as further amended by a Certificate of Amendment of Amended and Restated Certificate of Incorporation dated June 30, 2004 (incorporated by reference to Exhibit 3.6 of Ligand Pharmaceuticals Incorporated's Quarterly Report on Form 10-Q for the quarter ended June 30, 2004). |
| 3.2 | Amended Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of Ligand Pharmaceuticals Incorporated dated March 3, 1999 (incorporated by reference to Exhibit 3.3 of Ligand Pharmaceuticals Incorporated's Quarterly Report on Form 10-Q for the quarter ended March 31, 1999). Amends Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock originally filed in the offices of the Delaware Secretary of State on September 30, 1996. |
| 3.3 | Amended and Restated Bylaws of Ligand Pharmaceuticals Incorporated dated November 25, 1992, as amended by a Certificate of Amendment of Bylaws dated December 11, 1997 (incorporated by reference to Exhibit 3.3 of Ligand Pharmaceuticals Incorporated's Registration Statement on Form S-4 (No. 333-58823) filed with the SEC on July 9, 1998), as further amended by an Amendment of the Bylaws dated November 8, 2005 (incorporated by reference to Exhibit 3.1 of Ligand Pharmaceuticals Incorporated's Current Report on Form 8-K filed with the SEC on November 14, 2005), and as further amended by an Amendment of Bylaws dated December 4, 2007 (incorporated by reference to Exhibit 3.1 of Ligand Pharmaceuticals Incorporated's Current Report on Form 8-K filed with the SEC on December 6, 2007). |
| 5.1 | Opinion of Stradling Yocca Carlson & Rauth regarding the legality and binding effect of the securities being registered. |

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Exhibit

Number	Exhibit Description
23.1	Consent of Grant Thornton LLP, independent registered public accounting firm of Ligand Pharmaceuticals Incorporated.
23.2	Consent of BDO Seidman, LLP, independent registered public accounting firm of Ligand Pharmaceuticals Incorporated.
23.3	Consent of Ernst & Young LLP, independent registered public accounting firm of Metabasis Therapeutics, Inc.
23.4	Consent of Stradling Yocca Carlson & Rauth (included in Exhibit 5.1).
24.1*	Powers of Attorney (included with the signature pages to this registration statement).
99.1	Opinion of Merriman Curhan Ford & Co. regarding the fairness of the merger consideration (included as <i>Annex G</i> to the proxy statement/prospectus).
99.2	Consent of Merriman Curhan Ford & Co.
99.3	Form of Metabasis proxy card.

* Previously attached.

ITEM 22. UNDERTAKINGS

The undersigned registrant hereby undertakes:

(1) 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 section 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 in 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.

(2) 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.

(3) That every prospectus (i) that is filed pursuant to paragraph (2) 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.

(4) To respond to requests for information that is incorporated by reference into the prospectus pursuant to Item 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.

(5) 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.

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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 Act 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 Act and will be governed by the final adjudication of such issue.

Table of Contents**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 San Diego, State of California, on December 17, 2009.

Ligand Pharmaceuticals Incorporated

By: /s/ JOHN L. HIGGINS
 Name: **John L. Higgins**
 Title: *President and Chief Executive Officer*

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John L. Higgins and Charles S. Berkman and each of them, and any successor or successors to such offices held by each of them, acting individually, as such persons true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for such person in his name or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his or her substitutes, may do or cause to be done by virtue thereof. This power of attorney may be executed in counterparts.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ JOHN L. HIGGINS John L. Higgins	President, Chief Executive Officer and Director (Principal Executive Officer)	December 17, 2009
/s/ JOHN P. SHARP John P. Sharp	Vice President, Finance and Chief Financial Officer (Principal Financial and Accounting Officer)	December 17, 2009
/s/ JASON M. ARYEH* Jason M. Aryeh	Director	December 17, 2009
/s/ STEVEN J. BURAKOFF* Steven J. Burakoff	Director	December 17, 2009
/s/ TODD C. DAVIS* Todd C. Davis	Director	December 17, 2009
/s/ DAVID M. KNOTT* David M. Knott	Director	December 17, 2009

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/s/ JOHN W. KOZARICH*

Chairman of the Board of Directors

December 17, 2009

John W. Kozarich

/s/ STEPHEN L. SABBA*

Director

December 17, 2009

Stephen L. Sabba

*By John L. Higgins, as attorney-in-fact

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