

LIGAND PHARMACEUTICALS INC
Form S-4
September 30, 2009
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As filed with the Securities and Exchange Commission on September 30, 2009

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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)

10275 Science Center Drive

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San Diego, California 92121-1117

(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

10275 Science Center Drive

San Diego, California 92121-1117

(858) 550-7500

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

Copies to:

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San Diego, California 92121

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Stephen R. Davis

President and Chief Executive Officer

Neurogen Corporation

45 NE Industrial Road

Branford, CT 06405

Telephone: (203) 488-8201

Robert S. Reder, Esq.

Milbank, Tweed, Hadley & McCloy LLP

One Chase Manhattan Plaza

New York, NY 10005

(212) 530-5000

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. "

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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. "

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 x 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 ⁽²⁾	Proposed maximum offering price per unit	Proposed maximum aggregate offering price ⁽³⁾	Amount of registration fee ⁽⁴⁾
Common stock, \$0.001 par value per share	4,200,000	\$3.96	\$16,622,753	\$927.55

(1) Relates to common stock, \$0.001 par value per share, of Ligand Pharmaceuticals Incorporated, a Delaware corporation (Ligand), issuable to holders of common stock, \$0.025 par value per share, of Neurogen Corporation, a Delaware corporation (Neurogen), in the proposed merger of Neon Signal, LLC, a Delaware limited liability company and wholly-owned subsidiary of Ligand, with and into Neurogen.

(2) The amount of Ligand common stock to be registered is based on the estimated maximum number of shares of Ligand common stock issuable upon the closing of the above-referenced merger.

(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 (1) \$0.241, the average of the high and low sale prices of Neurogen common stock as reported on The Nasdaq Global Market on September 29, 2009 and (2) 68,974,080 shares of Neurogen common stock outstanding on September 29, 2009, all subject to a cap of 4.2 million shares of Ligand common stock as provided for in the agreement and plan of merger. The product of (1) and (2) above is not being reduced by any value attributable to the contingent value rights, despite the invitation of the second sentence of Rule 457(f)(3), because there is no assurance that any cash will be paid under the contingent value rights.

(4) This fee has been 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 September 30, 2009

MERGER PROPOSAL YOUR VOTE IS VERY IMPORTANT

Dear Fellow Stockholder:

The board of directors of Neurogen Corporation has approved a merger agreement that provides for the merger of Neon Signal, LLC, a wholly owned subsidiary of Ligand Pharmaceuticals Incorporated, with and into Neurogen. As a result of the merger, Neurogen will become a wholly owned subsidiary of Ligand.

As is more fully described in the accompanying proxy statement/prospectus, in connection with the merger, Neurogen stockholders will receive in the aggregate shares of Ligand common stock valued at approximately \$11 million, subject to (a) adjustment based on Neurogen's final cash position compared to its target cash amount of \$7.9 million as of September 30, 2009 (decreasing daily by \$5,000) and (b) a 4.2 million share maximum. Neurogen stockholders will also be entitled to receive in the merger net proceeds from the sale, if any, of Neurogen's Aplindore program for the treatment of Restless Leg Syndrome and Parkinson's disease and from the sale of its real estate holdings, if such assets are sold by Neurogen before the effective time of the merger. In addition, Neurogen stockholders will receive up to four contingent value rights that will provide the opportunity to receive cash or other payments in connection with (i) the sale or license of Neurogen's H3 antagonist program, (ii) the achievement of a milestone in its partnership with Merck, Sharpe & Dohme Limited for a vanilloid receptor subtype 1 antagonist drug, (iii) the sale of the Aplindore program, and (iv) the sale of its real estate holdings (if the Aplindore program and real estate holdings are not sold by Neurogen before the effective time of the merger).

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 68, which we urge you to read carefully. The common stock of Ligand is quoted on the Nasdaq Global Market under the symbol "LGND". The common stock of Neurogen is quoted on the Nasdaq Global Market under the symbol "NRGN".

The merger cannot be completed unless Neurogen stockholders adopt the merger agreement and approve the merger contemplated by the merger agreement at the special meeting of Neurogen stockholders to be held on [_____], 2009. We describe in detail the special meeting of Neurogen stockholders in the accompanying proxy statement/prospectus under the caption "The Special Meeting of Neurogen Stockholders" beginning on page 36, which we urge you to read carefully. More information about Ligand, Neurogen 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 20 of the accompanying proxy statement/prospectus before voting.**

Your vote is very important. Whether or not you plan to attend the special meeting of Neurogen 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,

Stephen R. Davis

President and Chief Executive Officer

Neurogen Corporation

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 [_____], 2009, and is first being mailed to Neurogen stockholders on or about that date.

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NEUROGEN CORPORATION

45 NORTHEAST INDUSTRIAL ROAD

BRANFORD, CONNECTICUT 06405

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

TO BE HELD ON [_____] , 2009

To the Stockholders of Neurogen Corporation:

We will hold a special meeting of the stockholders of Neurogen Corporation, a Delaware corporation, on [_____] , 2009 at [_____] a.m., local time, at [_____] , to consider and vote upon the following matters:

1. A proposal to adopt the Agreement and Plan of Merger, dated as of August 23, 2009, by and among Ligand Pharmaceuticals Incorporated, Neon Signal, LLC, a wholly owned subsidiary of Ligand Pharmaceuticals, and Neurogen, as amended by the Amendment to Agreement and Plan of Merger, dated as of September 18, 2009, 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 form of CVR agreements 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 Neurogen 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 [_____] , 2009 has been fixed by the Neurogen 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 Neurogen 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 principal offices of Neurogen, located at 45 Northeast Industrial Road, Branford, CT 06405, 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.

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By Order of the Board of Directors,

Stephen R. Davis

President and Chief Executive Officer

New York, NY

[_____], 2009

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THIS PROXY STATEMENT/PROSPECTUS INCORPORATES ADDITIONAL INFORMATION

This proxy statement/prospectus incorporates important business and financial information about Ligand and Neurogen 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 104 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

10275 Science Center Drive

San Diego, California 92121

Attn: Investor Relations

(858) 550-7500

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

Neurogen Corporation

45 NE Industrial Road

Branford, CT 06405

Attn: Secretary

(203) 488-8201

In order to receive timely delivery of the documents before the special meeting, you must make your requests no later than [____], 2009.

ABOUT THIS PROXY STATEMENT/PROSPECTUS

This proxy statement/prospectus, 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 shares of Ligand common stock to be issued to Neurogen 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 Neurogen 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 Neurogen 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 Neurogen Corporation, or Neurogen, under the terms of an Agreement and Plan of Merger, dated August 23, 2009, as amended by the Amendment to Agreement and Plan of Merger, dated as of September 18, 2009, 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 40 and 68, 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 Neurogen, Neurogen stockholders must adopt the merger agreement by the affirmative vote of the holders of a majority of the shares of Neurogen 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 Neurogen stockholder as of [_____], 2009, the record date for the special meeting, and thus you are entitled to vote at the special meeting. This document serves as both a proxy statement of Neurogen, used to solicit proxies for the special meeting, and as a prospectus of Ligand, used to offer shares of Ligand common stock in exchange for shares of Neurogen common stock 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 Neurogen stockholders?

A: The special meeting of Neurogen stockholders will be held on [_____], 2009, starting at [_____], local time, at [_____].

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

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

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

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.

Q: What is the merger?

A: Under the terms of the merger agreement, Neon Signal, LLC, a wholly-owned subsidiary of Ligand, or Merger Sub, will merge with and into Neurogen, with Neurogen continuing as the surviving entity. The merger of Merger Sub with and into Neurogen is referred to as the merger. Upon completion of the merger, each outstanding share of Neurogen common stock will be converted into the right to receive a combination of shares of Ligand common stock and contingent value rights and, in some situations involving the sale of certain Neurogen assets before the merger, other consideration, as described below. For a more complete description of the merger, please see the section entitled "The Merger" beginning on page 40 of this proxy statement/prospectus.

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

A: If the merger agreement is adopted by Neurogen's stockholders and the other conditions to the merger is satisfied or waived, then upon completion of the merger, Ligand would issue to each Neurogen stockholder a number of Ligand shares equal to approximately \$11 million (subject to dollar for dollar adjustments for any difference between Neurogen's targeted and actual net cash as of the third trading day before the date of

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the Neurogen special meeting of stockholders) divided by the average of the daily volume weighted average prices of Ligand's common stock over the 20 day trading period ending three trading days before the Neurogen stockholders meeting with respect to the merger, which result is then divided by the number of shares of Neurogen stock outstanding immediately before the merger. The number of Ligand shares to be issued in the merger is subject to a 4,200,000 share maximum, unless Ligand waives such maximum. Ligand may issue a number of Ligand shares equal to less than \$11 million if either or both of the following conditions exist: (a) such number is adjusted downward because as of the third trading day before the date of the special meeting of Neurogen stockholders, Neurogen's actual net cash is less than an agreed upon targeted net cash or (b) the average of the daily volume weighted average prices of Ligand's common stock over the 20 day trading period ending three trading days before the special meeting of Neurogen stockholders is less than approximately \$2.62 and the 4,200,000 share maximum is not waived.

If Neurogen's program for the development of Aplindore for the treatment of Restless Legs Syndrome, or RLS, and Parkinson's disease is sold by Neurogen before the merger, Neurogen stockholders will also receive in the merger a pro-rata share of the cash and/or number of shares of third-party stock, as the case may be, paid pre-merger by the buyer for the program. In addition, if the real properties currently owned by Neurogen are sold by Neurogen before the merger, the pre-merger net cash proceeds from the sale shall also be paid in the merger to the Neurogen stockholders.

Neurogen's stockholders will also receive up to four CVR agreements, if the Aplindore program and the real properties are not sold by Neurogen before the merger.

Please see the sections entitled "The Merger - General" and "Certain Terms of the Merger Agreement - CVR Agreements" beginning on pages 40 and 86, respectively, of this proxy statement/prospectus for a description of the merger consideration.

Q: What is required to consummate the merger?

A: To consummate the merger, Neurogen 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 Neurogen common stock outstanding on the record date for the special meeting. In addition to obtaining Neurogen 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 80 of this proxy statement/prospectus.

Q: How does Neurogen's board of directors recommend that I vote?

A: After careful consideration, Neurogen's 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 Neurogen and its stockholders. Accordingly, Neurogen's 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 Neurogen's board of directors' reasons for recommending the merger in greater detail, see the sections entitled "The Merger - Background of the Merger" and "The Merger - Neurogen's Reasons for the Merger; Recommendation of Neurogen's Board of Directors" beginning on pages 41 and 47, 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 18 of this proxy statement/prospectus, which sets forth certain risks and uncertainties

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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 fourth calendar quarter of 2009. However, because completion of the merger is subject to various conditions, Ligand and Neurogen cannot predict the exact timing of the merger or whether the merger will occur at all.

Q: Am I entitled to appraisal rights?

A: Under Delaware law, holders of Neurogen 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 Neurogen Stockholders* on page 65 of this proxy statement/prospectus.

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

A: Neurogen's 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 Neurogen options shall be entitled to exercise in full all Neurogen options held by such holder by paying the exercise price therefor in exchange for shares of Neurogen common stock in accordance with the applicable Neurogen equity plan or arrangement. All outstanding Neurogen options not exercised, other than any unexercised Neurogen options remaining outstanding under Neurogen's 1993 Omnibus Incentive Plan, shall be terminated and canceled at the time of the merger without any payment or liability on the part of Neurogen. No replacement options will be issued.

If any Neurogen warrant or any option issued under Neurogen's 1993 Omnibus Incentive Plan prior to the effective time of the merger remains outstanding after the effective time of the merger and the holder thereof exercises such Neurogen warrant or option, as the case may be, before its expiration or termination date, then Ligand shall issue and pay in respect of each exercised Neurogen warrant or option, as the case may be, in exchange for the payment of the applicable exercise price, on a per-exercised-share basis, equivalent consideration to the consideration (or the proceeds thereof) as was paid in respect of each issued and outstanding share of Neurogen common stock in the merger; provided that any such payment in respect of options shall be made in compliance with Section 409A of the Internal Revenue Code, or Code.

See the section entitled *Certain Terms of the Merger Agreement Neurogen Stock Options and Warrants* beginning on page 71 of this proxy statement/prospectus.

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

A: Yes. You will become a Ligand stockholder and 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 Delaware law and Ligand's amended and restated certificate of incorporation and amended and restated bylaws and the CVR agreements. For further information regarding your rights as a Ligand stockholder following the merger, please see *Comparative Rights of Ligand Stockholders and Neurogen Stockholders* beginning on page 102 of this proxy statement/prospectus.

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Q: *As a Neurogen stockholder, will I be able to trade the Ligand common stock and CVRs that I receive in connection with the merger?*

A: The shares of Ligand common stock issued to Neurogen stockholders in connection with the merger will be freely tradable. The CVRs issued to Neurogen stockholders in connection with the merger will not be marketable or listed on any securities exchange and will be subject to general transfer restrictions with limited exceptions.

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 Neurogen 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 Neurogen stockholder's gain or loss will also be determined by the stockholder's tax basis in his shares of Neurogen 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 62 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.

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 Neurogen 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.

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

A: If your shares of Neurogen common stock are registered directly in your name with Neurogen's transfer agent, you are considered, with respect to those shares, the stockholder of record, and the proxy materials and proxy card are being sent directly to you by Neurogen. If you are a Neurogen 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.

If your shares of Neurogen 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.

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 Neurogen 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 Neurogen stating that you would like to revoke your proxy. Second, you can complete, sign, date and submit (in time to reach Neurogen 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 Neurogen stock certificates now?

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

Q: Who is soliciting this proxy?

A: Neurogen is conducting this proxy solicitation and will bear the cost of soliciting proxies. In addition, Neurogen 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. Neurogen's 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.

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Q: Who can help answer my additional questions?

A: Neurogen 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 Neurogen common stock, should contact:

Neurogen Corporation

45 NE Industrial Road

Branford, CT 06405

Attn: Secretary

(203) 488-8201

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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 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 Neurogen, 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, as well as 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, *Neurogen* refers to Neurogen Corporation and its subsidiary, and *Merger Sub* refers to Neon Signal, LLC, 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 10275 Science Center Drive, San Diego, California, 92121. Ligand's telephone number is (858) 550-7500.

Neon Signal, LLC

Neon Signal, LLC, or Merger Sub, is a Delaware limited liability company and a wholly-owned subsidiary of Ligand organized on August 13, 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.

Neurogen Corporation

Neurogen Corporation (NASDAQ: NRGN) is a development company which has historically focused on new small molecule drugs to improve the lives of patients suffering from psychiatric and neurological disorders, including RLS and Parkinson's disease. Small molecule drugs typically are suitable for oral administration as a pill, while large molecule drugs are typically administered by injection.

Neurogen was incorporated in Delaware in 1987. Neurogen's principal executive offices are located at 45 Northeast Industrial Road, Branford, CT 06405. Neurogen's telephone number is (203) 488-8201.

Special Meeting of Neurogen Stockholders

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

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Date, Time and Place. Neurogen will hold its special meeting on [_____], 2009 at [____] a.m., local time, at [_____].

Purpose of the Meeting. At the special meeting, the Neurogen 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 August 23, 2009, by and among Ligand Pharmaceuticals Incorporated, Neon Signal, LLC, a wholly owned subsidiary of Ligand Pharmaceuticals, and Neurogen, as amended by the Amendment to Agreement and Plan of Merger, dated as of September 18, 2009, 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 form of CVR agreements 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. Neurogen's bylaws provide that the holders of a majority of the shares of Neurogen 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. Neurogen common stock is the only type of security entitled to vote at the special meeting. On [_____], 2009, the record date for determination of stockholders entitled to vote at the special meeting, there were [_____] shares of Neurogen common stock outstanding. Each Neurogen stockholder of record on [_____], 2009 is entitled to one vote for each share of Neurogen 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 Neurogen's special meeting of stockholders, you are urged to complete and return the enclosed proxy, which is solicited by Neurogen's 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 Neurogen's 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.

Neurogen Votes Required. The affirmative vote of the holders of record of a majority of the outstanding shares of Neurogen 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 Neurogen 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 Neurogen

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common stock or a holder of Neurogen 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 Neurogen common stock or a holder of Neurogen 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 Neurogen common stock or a holder of Neurogen 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 [____], 2009, (i) the directors and executive officers of Neurogen beneficially owned [____] shares of Neurogen common stock entitled to vote, representing approximately [__]% of the outstanding shares of Neurogen common stock entitled to vote at the special meeting and (ii) Ligand and its affiliates beneficially owned [____] shares of Neurogen common stock entitled to vote, representing approximately [__]% of the outstanding shares of Neurogen common stock entitled to vote at the special meeting. However, due to the voting agreements described below, approximately [__]% of the outstanding shares of Neurogen common stock are included in both groups; and so, the aggregate total beneficially owned is [__]%.

The President and Chief Executive Officer of Neurogen, Stephen R. Davis, who owns less than 1% of the outstanding shares of Neurogen common stock, along with various stockholders of Neurogen who collectively own approximately 32% of the outstanding shares of Neurogen common stock, have entered into voting agreements with Ligand Pharmaceuticals pursuant to which Mr. Davis and the various stockholders have agreed, among other things, to vote the shares of common stock of Neurogen 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 89 of this proxy statement/prospectus.

Solicitation of Proxies. Neurogen 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 Neurogen 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, Neurogen 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 Neurogen. 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 18 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 Neurogen filed with the Securities and Exchange Commission, or SEC, and any other information included in or incorporated by reference into this proxy statement/prospectus.

Recommendation to Neurogen's Stockholders

Neurogen's board of directors has unanimously adopted the merger agreement and approved the merger. The board of directors of Neurogen recommends that Neurogen 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.

Table of Contents**Merger Structure; Merger Consideration**

In the merger, Merger Sub will merge with and into Neurogen, with Neurogen continuing as the surviving entity. Upon completion of the merger, Ligand would issue to each Neurogen stockholder a number of Ligand shares equal to approximately \$11 million (subject to dollar for dollar adjustments for any difference between Neurogen's targeted and actual net cash as of the third trading day before the date of the Neurogen special meeting of stockholders) divided by the average of the daily volume weighted average prices of Ligand's common stock over the 20 day trading period ending three trading days before the Neurogen stockholders meeting with respect to the merger, which result is then divided by the number of shares of Neurogen stock outstanding immediately before the merger. The number of Ligand shares to be issued in the merger is subject to a 4,200,000 share maximum, unless Ligand waives such maximum. Ligand may issue a number of Ligand shares equal to less than \$11 million if such number is adjusted downward because either or both of the following conditions exist: (a) as of the third trading day before the date of the special meeting of Neurogen stockholders, Neurogen's actual net cash is less than an agreed upon targeted net cash or (b) the average of the daily volume weighted average prices of Ligand's common stock over the 20 day trading period ending three trading days before the special meeting of Neurogen stockholders is less than approximately \$2.62 and the 4,200,000 share maximum is not waived.

If Neurogen's program for the development of Aplindore for the treatment of RLS and Parkinson's disease is sold by Neurogen before the merger, Neurogen stockholders will also receive in the merger a pro-rata share of the cash and/or number of shares of third-party stock, as the case may be, paid pre-merger by the buyer for the program. In addition, if the real properties currently owned by Neurogen are sold by Neurogen before the merger, the pre-merger net cash proceeds from the sale shall also be paid in the merger to the Neurogen stockholders.

Each share of Ligand common stock that is issued in connection with the merger will be accompanied by an associated right under Ligand's stockholder rights plan.

At the closing of the merger, Ligand, Neurogen and a rights agent will also enter into four contingent value rights agreements, or CVR agreements, 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 Neurogen stockholders will have with respect to each CVR to be held by them after the closing of the merger. Each Neurogen stockholder will receive one CVR under each of the four CVR agreements for each share of Neurogen stock held. The CVRs will not be marketable or listed on any securities exchange and will be subject to general transfer restrictions subject to limited exceptions.

Aplindore CVR. If the Aplindore program is not sold or cancelled before the merger, each Neurogen stockholder shall be issued, for each Neurogen share that they own, one Aplindore CVR entitling them to receive (i) if the Aplindore program is sold before the six month anniversary of the merger, a pro-rata share of the cash and/or number of shares of third-party stock received by Ligand from the buyer of the Aplindore program less the reasonable costs and expenses of sale, plus any amount remaining in an operating expense reserve account, or (ii) if the Aplindore program is not sold before the six month anniversary of the merger, a pro-rata share of any amount remaining in the operating expense reserve account.

H3 CVR. The H3 CVR agreement provides for the payment of a pro rata portion of (i) \$4 million in cash if Ligand licenses the Neurogen antagonist program intended to create an H3 receptor drug on or before the third anniversary of the merger, (ii) 50% of the net cash proceeds from a sale of such program if Ligand sells the program before the third anniversary of the merger or (iii) 50% of the net proceeds if an option agreement to either license or sell the H3 antagonist program is entered into, in each case before the third anniversary of the merger. If any such option to license is exercised, the CVR holders would receive a pro rata portion of an additional amount up to \$4 million (taking into account the option proceeds previously received by the CVR holders) or if any such option to sell is exercised, the CVR holders would receive a pro rata portion of 50% of the net sale proceeds.

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Merck CVR. The Merck CVR agreement provides for the payment of a pro rata portion of (i) \$3 million if a milestone payment from Merck is received upon the initiation of a Phase 3 clinical trial of a vanilloid receptor subtype 1, or VR1, antagonist drug for the treatment of pain, or (ii) 50% of the net proceeds if such program is sold back to Merck before the milestone payment is made.

Real Estate CVR. If the real estate is not sold before the merger, each Neurogen stockholder will be issued one real estate CVR. The real estate CVR agreement provides for the payment of a pro rata portion of the cash paid by any buyer of the real estate currently owned by Neurogen and received by Ligand on or before the six month anniversary of the merger, less any costs and expenses reasonably incurred by Ligand in connection with such sale.

For a description of the CVR agreements, see *Certain Terms of the Merger Agreement CVR Agreements* beginning on page 86 of this proxy statement/prospectus.

Treatment of Stock Options and Warrants

Neurogen's board of directors will take all requisite actions such that each holder of outstanding Neurogen options shall be entitled to exercise in full all Neurogen options held by such holder immediately before the effective time of the merger. All outstanding Neurogen options not exercised, other than any unexercised Neurogen options remaining outstanding under Neurogen's 1993 Omnibus Incentive Plan, shall be terminated and canceled without any payment by Neurogen.

If any Neurogen warrant or option remains outstanding after the effective time of the merger and the holder thereof exercises such Neurogen warrant or option before its expiration or termination date, then Ligand shall issue and pay in respect of each such exercised Neurogen warrant or option, on a per-exercised-share basis, equivalent consideration to the consideration (or the proceeds thereof) as was paid in respect of each issued and outstanding share of Neurogen common stock in the merger; provided that any such payment in respect of options shall be made in compliance with Section 409A of the Code.

See the section entitled *Certain Terms of the Merger Agreement Neurogen Stock Options and Warrants* beginning on page 71 of this proxy statement/prospectus.

Ownership of Ligand After the Merger

Ligand will issue a maximum of 4.2 million shares of common stock to Neurogen stockholders in the merger (unless Ligand agrees to waive such maximum). See the section entitled *Certain Terms of the Merger Agreement Manner and Basis of Converting Shares* beginning on page 69 of this proxy statement/prospectus. Neurogen stockholders will own approximately []% of the outstanding Ligand common stock after the merger. The above calculations are based on the number of shares of Ligand common stock and Neurogen common stock outstanding on the record date and the price of Ligand common stock as of such record date and assume that no Neurogen stock options or warrants will be exercised on a cashless basis, but does not take into account stock options or warrants of Ligand.

Neurogen's Reasons for the Merger

After careful consideration, Neurogen's 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 Neurogen and its stockholders. Neurogen's board of directors consulted with Neurogen's senior management, as well as Neurogen's financial advisor and legal counsel, in reaching its decision to approve the merger.

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Neurogen's 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 Neurogen's Reasons for the Merger; Recommendation of Neurogen Board of Directors" beginning on page 47 of this proxy statement/prospectus for a full discussion of the factors that Neurogen's board of directors considered in reaching its decision to approve the merger.

Opinion of Neurogen's Financial Advisor

On August 20, 2009, MTS Securities, LLC, or MTS, an affiliate of MTS Health Partners, L.P., or MTS Health Partners, rendered its opinion to Neurogen's board of directors that, as of August 20, 2009, and based upon and subject to the factors and assumptions set forth therein, the merger consideration to be received by the holders of Neurogen common stock, other than Ligand, Merger Sub, and their affiliates, pursuant to the merger agreement is fair from a financial point of view to such holders.

The full text of the written opinion of MTS, dated August 20, 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. MTS provided its opinion for the information and assistance of Neurogen's board of directors in connection with its consideration of the merger. The MTS opinion is not a recommendation as to how any holder of Neurogen 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 increase its cash position, allowing the combined company to increase the potential revenue earned from partnerships, and build long-term stockholder value.

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 18 of this proxy statement/prospectus.

Interests of Neurogen's Officers and Directors in the Merger

In considering the recommendation of Neurogen's board of directors that you vote to adopt the merger agreement, you should be aware that some of Neurogen's executive officers and directors may have economic interests in the merger that are different from, or in addition to, those of Neurogen's stockholders generally. See "The Merger Interests of Neurogen's Executive Officers and Directors in the Merger" beginning on page 59 of this proxy statement/prospectus.

Neurogen's 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 Neurogen's stockholders vote to adopt the merger agreement and approve the merger.

Conditions to the Merger

The obligations of Ligand, Merger Sub and Neurogen 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 Neurogen's stockholders;

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

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

the shares of Ligand common stock issuable to the Neurogen stockholders in the merger shall have been approved for listing on The NASDAQ Global Market, or Nasdaq, subject to official notice of issuance.

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 Neurogen in the merger agreement must be accurate, subject to exceptions that would not have a material adverse effect;

Neurogen 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 Neurogen; and

no more than 6,800,000 shares of Neurogen common stock shall be eligible to assert dissenters' rights.

The merger agreement also provides that the obligation of Neurogen 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, subject to exceptions that would not have a material adverse effect;

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

Termination of the Merger Agreement

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

the Neurogen stockholders do not approve the merger agreement;

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the merger has not been consummated by November 30, 2009 (subject to an automatic extension in certain situations, but not beyond December 15, 2009), 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 Neurogen board of directors has occurred within five business days before such termination (as described under "Certain Terms of the Merger Agreement - Termination of the Merger Agreement" beginning on page 83 of this proxy statement/prospectus);

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Neurogen breaches its representations and warranties set forth in the merger agreement, unless such breaches would not have a material adverse effect or impair Neurogen's ability to perform its obligations under the merger agreement; or

Neurogen breaches or fails to perform its obligations pursuant to the merger agreement, subject to Neurogen's ability to timely cure such breaches as provided in the merger agreement.

Neurogen 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 have a material adverse effect or impair Ligand's ability to perform its obligations under the merger agreement;

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

if the Neurogen board of directors authorizes Neurogen, 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 83 of this proxy statement/prospectus); or

if the result that would be obtained by multiplying (A) the sum of (x) the total number of shares of Ligand common stock issuable, after giving effect to the application of the 4.2 million maximum number of shares and assuming that there are no dissenting shares, plus (y) the excess shares which are a result of fractional shares not being issued, by (B) the volume weighted average price of Ligand common stock on the trading day immediately preceding the third trading day preceding the special meeting is less than \$11 million, as adjusted based on the difference between Neurogen's targeted and actual net cash amount. However, if on the business day next following the day on which Ligand receives actual notice in writing from Neurogen of termination for this reason, Ligand agrees to irrevocably waive in full the application of the 4.2 million maximum share amount, the termination shall be nullified.

Limitation on Neurogen's Ability to Consider Other Acquisition Proposals

Neurogen has agreed that it will not, shall cause all of its subsidiaries not to and shall use its reasonable best efforts to cause Neurogen's and Neurogen's subsidiaries' directors, officers, employees, investment bankers, attorneys and other agents or representatives not 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 Neurogen's Ability to Consider Other Acquisition Proposals beginning on page 78 of this proxy statement/prospectus);

furnish any non-public information relating to Neurogen 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 Neurogen any acquisition proposal; or

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

See Certain Terms of the Merger Agreement Limitation on Neurogen's Ability to Consider Other Acquisition Proposals beginning on page 78 of this proxy statement/prospectus.

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Termination Fee

The merger agreement provides that Neurogen shall pay a \$475,000 termination fee to Ligand if the Neurogen board of directors authorizes Neurogen to accept a superior proposal (as defined under Certain Terms of the Merger Agreement Limitation on Neurogen's Ability to Consider Other Acquisition Proposals beginning on page 78 of this proxy statement/prospectus).

The merger agreement also provides that Neurogen shall pay a \$475,000 termination fee to Ligand if:

- (i) Ligand or Neurogen terminates the merger agreement as a result of the Neurogen stockholder approval not having been obtained,
- (ii) Ligand or Neurogen terminates the merger agreement as a result of the merger not being consummated by November 30, 2009, subject to extension or
- (iii) Ligand terminates the merger agreement as a result of a breach by Neurogen of its representations and warranties, which would reasonably be expected to have a material adverse effect on Neurogen, or a material breach by Neurogen of its obligations, agreements or covenants contained in the merger agreement;

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 twelve (12) months after the date of termination of the merger agreement, Neurogen or any Neurogen subsidiary consummates an acquisition transaction (as defined in the section entitled Certain Terms of the Merger Agreement Limitation on Neurogen's Ability to Consider Other Acquisition Proposals beginning on page 78 of this proxy statement/prospectus) or enters into an agreement to consummate an acquisition transaction that is subsequently consummated, provided, however if the acquisition transaction is for less than 50% of the assets, voting securities or equity interests of Neurogen, the termination fee shall be \$362,500.

The merger agreement further provides that Neurogen shall pay a \$225,000 termination fee, instead of a \$475,000 termination fee, to Ligand if Neurogen terminates the merger agreement because the value of the stock consideration to be received by Neurogen stockholders in the merger is less than \$11 million, as adjusted, and Ligand does not nullify the termination by waiving the 4.2 million maximum share amount.

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. Neurogen's expenses of this kind would reduce Neurogen's net cash and thus would reduce the number of shares of Ligand common stock payable in the merger to Neurogen stockholders.

Tax Matters

The receipt of the merger consideration by a United States holder in exchange for Neurogen 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 Neurogen stockholder's gain or loss will also be determined by the stockholder's tax basis in his shares of Neurogen 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 62 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.

Anticipated Accounting Treatment

Ligand will account for the merger under the acquisition method of accounting in accordance with Statement of Financial Accounting Standards No. 141 (revised 2007), Business Combinations. See *The Merger Anticipated Accounting Treatment* beginning on page 65 of this proxy statement/prospectus.

Regulatory Filings and Approvals

Neither Ligand nor Neurogen 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.

Ligand Will List Shares of Ligand Common Stock issued in the Merger on Nasdaq

If the merger is completed, Neurogen stockholders will be able to trade the shares of Ligand common stock they receive in the merger on Nasdaq, subject to restrictions on affiliates of Ligand as of the effective time of the merger as described in the section entitled *The Merger Sales of Shares of Ligand Common Stock Received in the Merger* beginning on page 61 of this proxy statement/prospectus.

If Ligand and Neurogen complete the merger, Neurogen stock will no longer be listed for trading on Nasdaq or any other market or exchange. See *The Merger Delisting and Deregistration of Neurogen Common Stock* beginning on page 61 of this proxy statement/prospectus. CVRs issued in the merger will not be marketable or listed on any securities exchange and will be subject to general transfer restrictions with limited exceptions.

Appraisal Rights

Holders of Neurogen common stock are entitled to appraisal rights under Delaware law. See the section entitled *The Merger Appraisal Rights of Dissenting Neurogen Stockholders* beginning on page 65 of this proxy statement/prospectus.

Material Differences in Rights of Neurogen Stockholders and Ligand Stockholders

When the merger is completed, Neurogen stockholders will automatically become Ligand stockholders and holders of CVRs. The rights of Ligand stockholders differ from the rights of Neurogen stockholders in certain important ways. See the section entitled *Comparative Rights of Ligand Stockholders and Neurogen Stockholders* beginning on page 102 of this proxy statement/prospectus.

Table of Contents**COMPARATIVE PER SHARE MARKET PRICE AND DIVIDEND DATA**

Ligand common stock is listed on Nasdaq under the symbol LGND. Neurogen common stock is listed on Nasdaq under the symbol NRGN.

The table below sets forth, for the periods indicated, the high and low closing sale prices per share of Ligand common stock as reported on Nasdaq and the high and low closing sale prices per share of Neurogen common stock as reported on Nasdaq.

	Ligand Common Stock		Neurogen Common Stock	
	High	Low	High	Low
Year ended December 31, 2007				
First Quarter	\$ 9.74	\$ 7.49	\$ 6.76	\$ 5.75
Second Quarter ⁽¹⁾	\$ 7.56	\$ 6.43	\$ 8.51	\$ 6.39
Third Quarter	\$ 7.24	\$ 5.19	\$ 6.84	\$ 4.23
Fourth Quarter	\$ 5.98	\$ 3.90	\$ 4.75	\$ 2.78
Year ended December 31, 2008				
First Quarter	\$ 4.86	\$ 3.39	\$ 3.41	\$ 1.46
Second Quarter	\$ 4.52	\$ 2.30	\$ 2.43	\$ 0.71
Third Quarter	\$ 3.73	\$ 2.65	\$ 1.02	\$ 0.23
Fourth Quarter	\$ 2.94	\$ 1.27	\$ 0.30	\$ 0.07
Year ending December 31, 2009				
First Quarter	\$ 3.15	\$ 1.99	\$ 0.24	\$ 0.12
Second Quarter	\$ 3.12	\$ 2.56	\$ 0.36	\$ 0.15
Third Quarter	\$ [_____]	\$ [_____]	\$ [_____]	\$ [_____]
Fourth Quarter (through [_____], 2009)	\$ [_____]	\$ [_____]	\$ [_____]	\$ [_____]

(1) In March 2007, Ligand declared a cash dividend on its common stock of \$2.50 per share, and, in April 2007, paid an aggregate amount of \$252.7 million to stockholders of record as of April 5, 2007 in connection with such special dividend.

As of the record date, there were approximately [_____] record holders of Neurogen common stock. Neurogen has never declared or paid any cash dividends on its common stock. Other than the 2007 cash dividend referenced above, Ligand has never declared or paid any cash dividends on its capital stock. Ligand does not intend to pay any additional cash dividends in the foreseeable future and currently intends to retain future earnings, if any, to finance future growth. Following completion of the merger, Ligand common stock will continue to be listed on Nasdaq, and there will be no further market for Neurogen common stock.

The following table sets forth the per share closing sale price of Ligand common stock as reported on Nasdaq, the per share closing sale price of Neurogen common stock as reported on Nasdaq, and the estimated equivalent per share price, as explained below, of Neurogen common stock if the merger occurred on August 21, 2009, the last full trading day before the public announcement of the proposed merger and if the merger occurred on [_____], 2009, the latest practicable date before the date of this proxy statement/prospectus.

The estimated equivalent Neurogen per share price does not give effect to any possible sale of Neurogen's Aplindore program or real properties before closing or any CVR payments.

	Ligand Common Stock	Neurogen Common Stock	Estimated Equivalent Neurogen Per Share Price
August 21, 2009	\$ 2.76	\$ 0.20	\$ 0.18 ^(a)
[_____], 2009	\$ [_____]	\$ [_____]	\$ [_____] ^(b)

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- (a) The estimated equivalent price per share reflects the value of Ligand common stock that Neurogen stockholders would receive in exchange for each share of Neurogen common stock if the merger was priced and completed on August 21, 2009, the last full trading day before the public announcement of the merger agreement, and the amount of Neurogen's actual net cash equaled its targeted net cash on the applicable determination date.

- (b) The estimated equivalent price per share reflects the value of Ligand common stock that Neurogen stockholders would receive in exchange for each share of Neurogen common stock if the merger was priced and completed on [_____], 2009, the latest practicable date before the date of this proxy statement/prospectus, and the amount of Neurogen's actual net cash equaled its targeted net cash on the applicable determination date.

Table of Contents**LIGAND PHARMACEUTICALS INCORPORATED****SELECTED HISTORICAL CONSOLIDATED FINANCIAL INFORMATION**

The following selected historical consolidated financial information are 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 balance sheet data as of December 31, 2008, 2007, 2006, 2005, and 2004 are derived from Ligand's consolidated financial statements, and for the six-month period ended June 30, 2009 and 2008 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. In August 2009, Ligand entered into a lease termination agreement for its corporate facility in San Diego. Under the terms of the agreement, Ligand will pay a termination fee of \$14.3 million as follows: \$4.5 million upon signing, \$4.5 million in July 2010 and \$5.3 million in April 2011. In addition, Ligand entered into a new lease for a period of 27 months commencing October 2009, for premises consisting of office and lab space located in San Diego to serve as its new corporate headquarters.

	Years Ended December 31,				
	2008	2007	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)
	95,505,421	98,124,731	80,618,528	74,019,501	100,402,063

Weighted average number of common
shares

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	Six months ended June 30,	
	2009	2008
	Unaudited	
Royalties	\$ 4,736	\$ 9,678
Collaborative research and development and other revenues	12,328	
Research and development expenses	19,824	13,542
General and administrative expenses	9,755	14,650
Write-off of acquired in-process research and development	441	
Loss from operations	(11,974)	(17,532)
Loss from continuing operations	(11,957)	(14,606)
Discontinued operations	5,173	4,244
Net loss:	\$ (6,784)	\$ (10,362)
Basic and diluted per share amounts:		
Loss from continuing operations	\$ (0.11)	\$ (0.15)
Discontinued operations	0.05	0.04
Net income (loss)	\$ (0.06)	\$ (0.11)
Weighted average number of common shares	113,132,893	95,051,672

	As of		As of December 31,			
	June 30, 2009 (unaudited)	2008	2007	2006 (in thousands)	2005	2004
Consolidated Balance Sheet Data:						
Cash, cash equivalents, short-term investments and restricted cash and investments	\$ 56,851	\$ 82,012	\$ 95,819	\$ 212,488	\$ 88,756	\$ 114,870
Working capital (deficit) ⁽³⁾	21,268	23,315	58,975	64,747	(102,244)	(48,505)
Total assets	129,176	171,448	173,278	326,053	314,619	332,466
Current portion of deferred revenue, net	10,259	10,301		57,981	157,519	152,528
Current portion of deferred gain	1,964	1,964	1,964	1,964		
Long-term obligations (excludes long-term portions of deferred revenue, net and deferred gain)	54,158	58,743	53,048	85,780	173,280	174,214
Long-term portion of deferred revenue, net	8,421	16,819	2,546	2,546	4,202	4,512
Long-term portion of deferred gain	22,310	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	(686,387)	(679,626)	(581,512)	(862,802)	(831,059)	(794,660)
Total stockholders' equity (deficit)	(12,259)	(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 SFAS123(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.

Table of Contents**NEUROGEN CORPORATION****SELECTED HISTORICAL CONSOLIDATED FINANCIAL INFORMATION**

The following selected historical consolidated financial information should be read in conjunction with Neurogen's financial statements and the related notes thereto and the sections entitled, "Management's Discussion and Analysis of Financial Condition and Results of Operations" from Neurogen's annual report on Form 10-K and quarterly reports on Form 10-Q, which are incorporated by reference in this proxy statement/prospectus. Neurogen's 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 Neurogen's consolidated financial statements, and for the six-month period ended June 30, 2009 and 2008 as derived from Neurogen's unaudited interim condensed consolidated financial statements.

The unaudited interim condensed consolidated financial statements include, in Neurogen'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 Neurogen 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	Years Ended December 31,			2004
		2007	2006	2005	
		(in thousands, except share data)			
Consolidated Statement of Operations Data:					
License fees	\$	\$ 10,872	\$ 4,467	\$ 3,632	\$ 8,890
Research and development revenue		4,565	5,346	3,926	10,290
Sale of compound library	3,000				
Research and development expenses	31,643	60,973	55,853	38,487	31,279
General and administrative expenses	7,118	12,772	11,560	9,628	9,115
Restructuring and asset impairment charges	16,078				
Gain on warrants to purchase common stock	16,700				
Other income, net	625	2,326	2,519	3,044	2,313
Loss before income taxes	(34,514)	(55,982)	(55,081)	(37,513)	(18,901)
Income tax benefit	238	276	1,305	393	308
Deemed preferred dividends	(30,620)				
Net loss attributable to common stockholders	\$ (64,896)	\$ (55,706)	\$ (53,776)	\$ (37,120)	\$ (18,593)
Basic and diluted loss per share attributable to common stockholders	\$ (1.22)	\$ (1.33)	\$ (1.55)	\$ (1.08)	\$ (0.63)
Shares used in calculation of basic and diluted loss per share attributable to common stockholders					
	53,357	41,864	34,789	34,318	29,703

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	Six Months Ended June 30, 2009 2008 (unaudited)	
Consolidated Statement of Operations Data:		
Revenues:		
Sale of patent estates	\$ 2,650	\$
Total revenues	2,650	
Operating costs and expenses:		
Research and development	6,051	20,049
General and administrative	3,314	2,919
Asset impairment charges	9,176	7,200
Restructuring of workforce	2,677	5,130
Total operating costs and expenses	21,218	35,298
Loss from operations	(18,568)	(35,298)
Gain on warrants to purchase common stock		11,954
Other income (expense):		
Investment and other income	352	627
Interest expense	(176)	(281)
Total other income, net	176	346
Loss before income taxes	(18,392)	(22,998)
Income tax benefit	45	46
Loss from continuing operations	(18,347)	(22,952)
Deemed preferred dividends		(5,407)
Net loss attributable to common stockholders	\$ (18,347)	\$ (28,359)
Basic and diluted loss per share attributable to common stockholders	\$ (0.27)	\$ (0.67)
Shares used in calculation of basic and diluted loss per share attributable to common stockholders	68,490	42,062

	As of June 30, 2009 (unaudited)	2008	2007	As of December 31, 2006 2005 2004 (in thousands)		
Consolidated Balance Sheet Data:						
Cash, cash equivalents, restricted cash and marketable securities	\$ 22,058	\$ 31,073	\$ 42,589	\$ 107,571	\$ 115,360	\$ 151,785
Other current assets, net	3,774	6,563	3,214	3,022	3,049	2,810
Total assets	\$ 25,867	\$ 44,768	\$ 71,370	\$ 137,739	\$ 146,764	\$ 183,823
Total current liabilities	8,207	9,247	13,622	17,455	12,946	10,392
Long-term obligations (excludes unearned revenue and loans payable)	121					
Long-term portion of unearned revenue				6,768	8,880	10,845
Long-term portion of loans payable	2,630	2,807	3,141	8,976	10,430	11,864
Common stock	1,724	1,701	1,050	1,044	865	862
Accumulated deficit	(340,771)	(322,424)	(288,148)	(232,442)	(178,666)	(141,546)
Total stockholders' equity	14,909	32,714	54,607	104,540	114,508	150,722

Table of Contents**SELECTED UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION**

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 Neurogen 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 92 and 104, respectively, of this proxy statement/prospectus.

The selected unaudited pro forma condensed combined balance sheet as of June 30, 2009 gives effect to the proposed merger as if it had occurred on June 30, 2009, and combines the historical balance sheets of Ligand and Neurogen as of June 30, 2009. The selected unaudited pro forma condensed combined statements of operations for the year ended December 31, 2008 and for the six months ended June 30, 2009 are presented as if the proposed merger had occurred on January 1, 2008, and combines the historical results of Ligand and Neurogen for the year ended December 31, 2008 and for the six months ended June 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 Neurogen 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)	
	Six Months Ended	Year Ended
	June 30, 2009	December 31, 2008
Earnings Data:		
Revenue	\$ 19,714	\$ 30,315
Expenses	51,208	181,319
Operating loss	(30,512)	(149,040)
Other income	110	16,919
Loss before income taxes	(30,402)	(132,121)
Income tax (expense) benefit	45	293
Loss from continuing operations	(30,357)	(131,828)
Basic and diluted per share amounts:		
Continuing operations	\$ (0.26)	\$ (1.32)

	Unaudited Pro Forma Combined	
	(in thousands, except per share data)	
	June 30, 2009	
Balance Sheet Data:		
Total assets	\$	148,609
Total liabilities		140,099
Ligand common stock subject to redemption		8,344
Total stockholders' equity		166

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The tables below reflect:

the historical net income (loss) and book value per share of Ligand common stock and the historical net income (loss) and book value per share of Neurogen common stock;

the combined Ligand and Neurogen unaudited pro forma net income and book value per share after giving effect to the merger on a purchase basis if the merger had been priced and consummated on August 21, 2009 (the last full trading day before the public announcement of the merger agreement);

the equivalent unaudited pro forma net income and book value per share attributable to .06 of a share of Ligand common stock, which is the fraction of a Ligand share which would be received for each share of Neurogen common stock if the merger had been priced and consummated on August 21, 2009 (the last full trading day before the public announcement of the merger agreement); and

the equivalent unaudited pro forma net income and book value per share attributable to .06 of a share of Ligand common stock, which is the maximum fraction of a Ligand share which would be received for each share of Neurogen common stock pursuant to the merger agreement (assuming no waiver of the 4.2 million maximum number of Ligand shares).

The following tables further assume that the amount of Neurogen's targeted net cash equaled its actual net cash on the applicable determination date.

The following tables should be read in conjunction with the historical consolidated financial statements and related notes of Ligand which are incorporated by reference in this proxy statement/prospectus and the historical consolidated financial statements and related notes of Neurogen, which are included or incorporated by reference elsewhere in this proxy statement/prospectus.

The unaudited pro forma data are presented for illustrative purposes only and are not necessarily indicative of actual or future financial position or results of operation that would have been realized if the proposed merger had been completed as of the date indicated or will be realized upon completion of the proposed merger. See the section entitled "Unaudited Pro Forma Condensed Combined Financial Information" beginning on page 92 of this proxy statement/prospectus.

Ligand	Six Months Ended June 30, 2009	Year Ended December 31, 2008
Historical per common share data (basic and diluted):		
Continuing operations	\$ (0.11)	\$ (1.02)
Discontinued operations	\$ 0.05	\$ (0.01)
Net income (loss)	\$ (0.06)	\$ (1.03)
Book value (based on basic weighted average shares outstanding)	\$ (0.11)	\$ (0.11)

Neurogen	Six Months Ended June 30, 2009	Year Ended December 31, 2008
Historical per common share data (basic and diluted):		
Net income (loss)	\$ (0.27)	\$ (1.22)
Book value (based on basic weighted average shares outstanding)	\$ 0.22	\$ 0.61

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	Six Months Ended June 30, 2009	Year Ended December 31, 2008
Combined Ligand and Neurogen		
Combined pro forma per Ligand common share data, calculated assuming the closing occurred on August 21, 2009:		
Net loss from continuing operations basic and diluted	\$ (0.26)	\$ (1.32)
Book value (based on basic weighted average shares outstanding)	\$ (0.02)	\$
Combined pro forma per Neurogen equivalent share data, calculated assuming the closing occurred on August 21, 2009:		
Net loss from continuing operations basic and diluted	\$ (0.01)	\$ (0.08)
Book value (based on basic weighted average shares outstanding)	\$ (0.00)	\$
Combined pro forma per Neurogen equivalent share data, calculated assuming the maximum number of Ligand shares were issued (assuming no waiver of the 4.2 million maximum number of Ligand shares):		
Net loss from continuing operations basic and diluted	\$ (0.01)	\$ (0.07)
Book value (based on basic weighted average shares outstanding)	\$ (0.00)	\$

Table of Contents**RISK FACTORS**

If the merger is completed, Ligand and Neurogen 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 Neurogen 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 Neurogen or that they do not currently believe are important to an investor, if they materialize, also may adversely affect the merger, Ligand, Neurogen and the combined company. A discussion of additional risks and uncertainties regarding Ligand and Neurogen 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 104 of this proxy statement/prospectus. If any of the events, contingencies, circumstances or conditions described in the following risks actually occur, Ligand's and Neurogen's 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 Neurogen common stock could decline and you may lose part or all of the value of any Ligand shares or Neurogen shares held by you.

Risks Related to the Merger and the Combined Company

The number of shares of Ligand common stock and the CVRs that Neurogen stockholders will receive in connection with the merger will fluctuate.

The number of shares and precise value of the merger consideration to be received by Neurogen stockholders at the effective time of the merger cannot be determined at the present time. The exchange ratio, which determines the number of shares of Ligand common stock that Neurogen stockholders will receive in connection with the merger, will not be determined until shortly before the special meeting of Neurogen stockholders.

Based on the terms of the merger agreement, Ligand would issue common stock valued at approximately \$11 million, subject to adjustment based on the final net cash position of Neurogen measured against a target net cash amount of \$7.9 million as of September 30, 2009, with a \$5,000 daily reduction after September 30, 2009, and further subject to a 4.2 million maximum number of shares of Ligand common stock to be issued in the merger. Ligand would also issue CVRs in the merger. Please see the sections entitled "The Merger" and "Certain Terms of the Merger Agreement" beginning on pages 40 and 68, respectively, of this proxy statement/prospectus.

The price of Ligand common stock at the closing of the merger may vary from its price on the date the merger agreement was executed, on the date of this proxy statement/prospectus and on the date of the special meeting of Neurogen stockholders. Stock price changes may result from a variety of factors beyond Ligand's control, including general economic and market conditions. In addition, there will be a period of time between completion of the merger and the time at which former Neurogen stockholders actually receive stock certificates evidencing the Ligand common stock. Until stock certificates are received, former Neurogen stockholders may not be able to sell their Ligand shares in the open market and, therefore, may not be able to avoid losses from any decrease in the trading price of Ligand common stock during that period.

The value of Ligand common stock could fluctuate for a variety of reasons between the date of the merger agreement and the date of the special meeting of Neurogen stockholders. Under the merger agreement, Ligand is required to issue no more than 4.2 million shares of Ligand common stock. In the event declines in the value of Ligand common stock, combined with the 4.2 million share maximum, would result in Neurogen stockholders receiving in the aggregate less than \$11 million (as adjusted by Neurogen's net cash position as provided in the merger agreement), Neurogen has the right to terminate the merger agreement and pay Ligand a termination fee of \$225,000. If Neurogen decides not to terminate the merger agreement for reasons determined by the Neurogen board of directors at the time, Neurogen stockholders will receive in the aggregate less than \$11 million (as

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adjusted). If Neurogen exercises such termination right, Ligand can waive application of the share maximum and nullify such termination, but Ligand is under no obligation to do so. In the event Ligand chooses not to waive application of the share maximum under those circumstances, there would be no merger with Ligand.

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

The CVR agreements set forth the rights of the Neurogen stockholders to receive payments thereunder.

Aplindore CVR. In order for a Neurogen stockholder to receive consideration under an Aplindore CVR agreement, the Aplindore program must be sold before the six month anniversary of the merger; however, if the Aplindore program is not sold before the six month anniversary of the merger, any amount remaining in the operating expense reserve account will be paid to the CVR holders. The beginning balance of the operating expense reserve account will be \$350,000, and it is likely that most or all of this will be expended.

Under the terms of the Aplindore CVR agreement, Ligand shall attempt to sell the Aplindore program, but 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 Aplindore program and when, if ever, to consummate the sale of all or any portion of the Aplindore program to any purchaser, and, subject to limited exceptions, upon what terms and conditions.

H3 CVR. In order for a Neurogen stockholder to receive consideration under the H3 CVR agreement, Ligand must license the Neurogen antagonist program intended to create an H3 receptor drug on or before the third anniversary of the merger, sell such program before the third anniversary of the merger and before licensing the program and/or enter into an option agreement to either license or sell the H3 antagonist program before the third anniversary of the merger.

Under the terms of the H3 CVR agreement, Ligand shall have sole discretion and decision making authority over any continued operation of, development of or investment in the H3 antagonist 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 H3 antagonist program, and upon what terms and conditions.

Merck CVR. In order for a Neurogen stockholder to receive consideration under the Merck CVR agreement, Ligand must receive a milestone payment from Merck Sharpe & Dohme Limited from Merck's initiation of a Phase 3 clinical trial of a vanilloid receptor subtype 1, or VR1, antagonist drug for the treatment of pain, as specified in a 2003 partnering agreement between Merck and Neurogen, or sell to Merck the VR1 program before the initiation of any such Phase 3 trial.

Under the terms of the Merck CVR agreement, Ligand shall have sole discretion and decision making authority over any continuation by Ligand of involvement in the VR1 program and over when, if ever, to consummate the sale, conveyance, relinquishment or other transfer of the VR1 program rights to Merck, and, subject to limited exceptions, upon what terms and conditions. Merck will control the operations of the VR1 program and when, if ever, to initiate the VR1 Phase 3 trial. Merck may not wish to buy the VR1 program, even if Ligand wishes to sell it.

Real Estate CVR. In order for a Neurogen stockholder to receive consideration under the real estate CVR agreement, Ligand must receive cash from a buyer of the real estate currently owned by Neurogen on or before the six month anniversary of the merger.

Under the terms of the real estate CVR agreement, Ligand shall attempt to sell the real estate currently owned by Neurogen, but shall have sole discretion and decision making authority, which shall be exercised in

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good faith and with commercial reasonableness, over when, if ever, to consummate the sale of all, or any parcel of such real estate, to any purchaser, and upon what terms and conditions.

The events that result in contingent payments may not occur due to numerous factors. For the CVR agreements with stated timeframes, the CVR will expire and no payments will be made in connection with such CVR if the trigger event for such CVR is not achieved within the required timeframe. Accordingly, the CVRs may ultimately have no value. The CVRs are not transferable other than in certain limited circumstances and accordingly you may not sell them before their termination.

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 Neurogen.

Ligand's and Neurogen's 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 Neurogen's stock price and future business and operations.

Completion of the merger is conditioned upon Ligand and Neurogen satisfying closing conditions, including adoption of the merger agreement by Neurogen's 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 80 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 Neurogen's 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 Neurogen may be adversely affected and will be subject to a number of risks, including:

Neurogen may be required, under some circumstances, to pay Ligand a termination fee of up to \$475,000. See "Certain Terms of the Merger Agreement - Termination Fee" beginning on page 85 of this proxy statement/prospectus;

the diversion of management's attention, the reduction in capital spending and acquisitions, the suspension of planned hiring, the potential employee attrition from Neurogen's small staff 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 Neurogen common stock may decline to the extent that the current market price reflects a market assumption that the merger will be completed;

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

Ligand's and Neurogen's 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 Neurogen's board of directors seeks another merger or business combination, Neurogen stockholders cannot be certain that Neurogen 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.

The pro forma condensed combined financial information is presented for illustrative purposes only and may not be an indication of the combined company's financial condition or results of operations following the merger.

The pro forma financial information contained in this proxy statement/prospectus are presented for illustrative purposes only and may not be an indication of the combined company's financial condition or results of operations following the merger for several reasons. For example, the pro forma financial information has been derived from the historical financial statements of Ligand and Neurogen and certain adjustments and assumptions have been made regarding the combined company after giving effect to the merger. The information upon which these adjustments and assumptions have been made is preliminary, and these kinds of adjustments and assumptions are difficult to make with complete accuracy. Moreover, the pro forma financial information does not reflect all costs that are expected to be incurred by the combined company in connection with the merger. For example, the impact of any incremental costs incurred in integrating the two companies is not reflected in the pro forma financial statements. As a result, the actual financial condition and results of operations of the combined company following the merger may not be consistent with, or evident from, these pro forma financial statements.

In addition, the assumptions used in preparing the pro forma financial information may not prove to be accurate, and other factors may affect the combined company's financial condition or results of operations following the merger. Any potential decline in the combined company's financial condition or results of operations may cause significant variations in the stock price of the combined company. See the section entitled Unaudited Pro Forma Condensed Combined Financial Information beginning on page 92 of this proxy statement/prospectus.

In the event the merger is completed, Ligand will incur additional expenses in connection with the integration of Neurogen.

In the event the merger is completed, Ligand expects to incur additional expenses in connection with the integration of Neurogen, including integrating accounting systems, vendors and strategic partners of each company and transitioning assets, and may be subject to possible material write downs in assets and charges to earnings, which are expected to include severance pay and other costs. Ligand will not retain Neurogen's Connecticut facilities, and transitioning assets to other locations may be disruptive. In addition, Ligand does not intend to offer employment to any more than one or two Neurogen employees, which may result in a loss of know-how and/or institutional memory.

Neurogen's 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 Neurogen board of directors to adopt the merger agreement, Neurogen stockholders should recognize that Neurogen's executive officers and directors have interests that differ from those of Neurogen's 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 Neurogen's Executive Officers and Directors in the Merger.

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The market price of Ligand's common stock may decline as a result of the merger.

The market price of Ligand's common stock may decline as a result of the merger for a number of reasons including the reasons mentioned in the risk factors above and/or if:

the prospective or actual issuance of the Ligand common stock may result in fluctuations in the price of Ligand common stock;

Ligand does not achieve the perceived benefits of the merger as rapidly or to the extent anticipated by financial or industry analysts;

the effect of the merger on Ligand's business and prospects is not consistent with the expectations of financial or biopharmaceutical industry analysts; or

investors react negatively to the effect on Ligand's business and prospects from the merger.

If Neurogen stockholders sell the Ligand common stock received in connection with the merger, they could cause a decline in the market price of Ligand common stock.

Ligand's common stock issued in connection with the merger will be registered with the SEC. As a result, those shares will be immediately available for resale in the public market, except for shares of Ligand common stock that will be subject to additional transfer restrictions because those shares were issued to Neurogen's former stockholders who are affiliates of Ligand upon completion of the merger. Neurogen former stockholders may sell the stock they receive immediately after the merger, except for any shares subject to the additional transfer restrictions described above. If this occurs, or if other holders of Ligand common stock sell significant amounts of Ligand common stock immediately after the merger is completed, the market price of Ligand common stock could decline. These sales may also make it more difficult for Ligand to sell equity securities in the future at a time and at a price that Ligand deems appropriate to raise funds through future offerings of common stock.

Former Neurogen stockholders will have limited ability to influence Ligand's actions and decisions following the merger.

Following the merger, former Neurogen stockholders will hold up to only approximately [__]% of the outstanding shares of Ligand common stock. As a result, former Neurogen stockholders will have only limited ability to influence Ligand's business. Former Neurogen stockholders will not have separate approval rights with respect to any actions or decisions of Ligand or have separate representation on Ligand's board of directors.

The combined company's stock price is expected to be volatile due to the nature of its business, and the market price of its common stock may drop following the merger.

The market price of the combined company's common stock could be subject to significant fluctuations following the merger. Market prices for securities of pharmaceutical, biotechnology and other life sciences companies have historically been particularly volatile. Some of the factors that may cause the market price of the combined company's common stock to fluctuate include:

the ability of the combined company to obtain regulatory approvals for any of its product candidates, and delays or failures to obtain such approvals;

failure of any of the combined company's product candidates, if approved, to achieve commercial success;

issues in manufacturing the combined company's approved products, if any, or product candidates;

the results of the combined company's current and any future clinical trials of its product candidates;

the entry into, or termination of, key agreements, including key commercial partner agreements;

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the initiation of, material developments in, or conclusion of litigation to enforce or defend any of the combined company's intellectual property rights or defend against the intellectual property rights of others;

developments concerning current or future strategic collaborations;

announcements by commercial partners or competitors of new commercial products, clinical progress or the lack thereof, significant contracts, commercial relationships or capital commitments;

the introduction of technological innovations or new therapies that compete with potential products of the combined company;

additions or departures of key employees;

third-party coverage and reimbursement policies;

changes in estimates or recommendations by securities analysts, if any, who cover the combined company's common stock;

future sales of the combined company's common stock;

general and industry-specific economic conditions that may affect the combined company's research and development expenditures; and

period-to-period fluctuations in the combined company's financial results.

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

In the past, following periods of volatility in the market price of a company's securities, stockholders have often instituted class action securities litigation against those companies. Such litigation, if instituted, could result in substantial costs and diversion of management attention and resources, which could significantly harm the combined company's profitability and reputation.

The merger agreement limits Neurogen's ability to pursue alternatives to the merger.

Neurogen has agreed that it will not, shall cause all of its subsidiaries not to and shall use its reasonable best efforts to cause Neurogen's and Neurogen's subsidiaries' directors, officers, employees, investment bankers, attorneys and other agents or representatives not to, directly or indirectly, subject to specified exceptions, solicit, initiate, knowingly encourage or knowingly induce the making, submission or announcement of an acquisition proposal, furnish any non-public information relating to Neurogen 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 Neurogen any acquisition proposal, or withdraw or modify the recommendation of the board of directors of Neurogen that Neurogen stockholders vote to adopt the merger agreement. Under certain circumstances, the merger agreement also provides that Neurogen will be required to pay a termination fee of up to \$475,000 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 Neurogen from considering or proposing an acquisition even if it were prepared to pay consideration with a higher per share market price than that proposed in the merger, or might result in a potential competing acquirer proposing to pay a lower per share price to acquire Neurogen than it might otherwise have proposed to pay.

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

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There is substantial uncertainty as to the tax treatment of the CVRs. 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

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consummation of the merger. See *The Merger Material United States Federal Income Tax Consequences of the Merger* beginning on page 62 of this proxy statement/prospectus for a more detailed explanation of the United States federal income tax treatment of the CVRs.

Ligand and Neurogen have each been named in a putative class action lawsuit that could prevent or delay the completion of the merger.

On August 31, 2009, a putative class action complaint was filed in the Connecticut Superior Court for the New Haven Judicial District by Gabriel Guzman, one of Neurogen's stockholders, against Neurogen, the members of its board of directors, Ligand and Merger Sub. The complaint generally alleges that Neurogen's board of directors' decision to enter into the proposed transaction with Ligand on the terms contained in the merger agreement constitutes a breach of their fiduciary duties and gives rise to other unspecified state law claims. The complaint also alleges that Ligand and Merger Sub aided and abetted Neurogen's board of directors' breach of their fiduciary duties. In addition, the complaint alleges that the named plaintiff will seek equitable relief, including among other things, an order preliminarily and permanently enjoining the proposed transaction. Neither Ligand nor Neurogen can provide any assurances as to the outcome of the foregoing legal proceeding and its potential effect on the completion of the merger.

The defense of this or any future legal proceeding could divert management's attention and resources from the needs of their respective businesses. Either Neurogen or Ligand or both of them may be required to make substantial payments or incur other adverse effects in the event of adverse judgments or settlements of any such proceedings. In addition, the merger may be delayed or prohibited as a result of this legal proceeding.

Risks Related to Ligand

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

King Pharmaceuticals, 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 our 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

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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, 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 LLC 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.

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 will no longer be 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 PS178990. 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

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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. 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 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, PS178990 and LGD-4665 and other small-molecule TPO mimetic compounds. Any such dispute or litigation could delay, interrupt or terminate the collaborative research, development and commercialization of certain potential products, create u