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	**2834**	**77-0160744**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification Number)**

10275 Science Center Drive

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:

Michael J. Brown, Esq.	Stephen R. Davis	Robert S. Reder, Esq.
Stradling Yocca Carlson & Rauth	President and Chief Executive Officer	Milbank, Tweed, Hadley & McCloy LLP
4365 Executive Drive, Suite 1500	Neurogen Corporation	One Chase Manhattan Plaza
San Diego, California 92121	45 NE Industrial Road	New York, NY 10005
(858) 926-3000	Branford, CT 06405	(212) 530-5000
	Telephone: (203) 488-8201	

Approximate date of commencement of proposed sale to the public:

As soon as practicable after the effectiveness of this registration statement and the satisfaction or waiver of all other conditions under the merger agreement described herein.

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

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

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

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 ¨ (Do not check if a smaller reporting company)	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.

By Order of the Board of Directors,

Stephen R. Davis

President and Chief Executive Officer

New York, NY

[__________], 2009

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

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

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.

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.

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.

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;

- 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

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.

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.

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.

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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, (in thousands, except share data)				
	2008	2007	2006[2]	2005	2004
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 June 30, 2009 (unaudited)	As of December 31, 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.

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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.

	Years Ended December 31,				
	2008	2007	2006	2005	2004
	(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 (unaudited)	Six Months Ended June 30, 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)	As of December 31, 2008	2007	2006 (in thousands)	2005	2004
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

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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 June 30, 2009	Year Ended 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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COMPARATIVE PER SHARE DATA

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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Combined Ligand and Neurogen	Six Months Ended June 30, 2009	Year Ended December 31, 2008
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)	$

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

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

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.

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

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

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

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 uncertainty as to ownership rights of intellectual property, or could result in litigation or arbitration. The occurrence of any of these problems could be time-consuming and expensive and could adversely affect Ligand s business.

Ligand s early collaboration business strategy may limit its potential financial return from its drug candidates.

Ligand s strategy is to seek collaborative partners for its drug candidates at an early stage of development, whenever possible. Because of the future costs and risks associated with the drug candidates at an early stage of development, Ligand s upfront payments, milestone payments, royalty payments and other contractual rights may be more modest than if Ligand waited until a later stage of development.

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

Ligand s operations have consumed substantial amounts of cash since inception. Clinical and preclinical development of drug candidates is a long, expensive and uncertain process. Also, Ligand may acquire companies, businesses or products and the consummation of such acquisitions may consume additional cash. For example, as part of the consideration for Ligand s recent acquisition of Pharmacopeia Ligand distributed approximately $9.3 million in cash to Pharmacopeia stockholders. Security holders of Pharmacopeia also received contingent value

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rights under which Ligand could be required to make an aggregate cash payment of $15.0 million to such security holders under certain circumstances.

Ligand believes that its capital resources will be adequate to fund its operations at their current levels at least for the next twelve months. However, changes may occur that would cause Ligand to consume available capital resources before that time. Examples of relevant potential changes that could impact Ligand s capital resources include:

- the costs associated with Ligand s drug research and development activities, and additional costs Ligand may incur if its development programs are delayed or are more expensive to implement than Ligand currently anticipates;
- changes in existing collaborative relationships, including the funding Ligand receives in connection with those relationships;
- the progress of Ligand s milestone and royalty producing activities;
- acquisitions of other businesses or technologies;
- the purchase of additional capital equipment;
- cash payments or refunds Ligand may be required to make pursuant to certain agreements with third parties;
- competing technological and market developments; and
- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights, and the outcome of related litigation.

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

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

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

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

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

Ligand s success will depend on its ability and the ability of its collaborative partners to avoid infringing the proprietary rights of others, both in the United States and in foreign countries. In addition, disputes with licensors under Ligand s license agreements may arise which could result in additional financial liability or loss of important technology and potential products and related revenue, if any. Further, the manufacture, use or sale of Ligand s potential products or its collaborative partners products or potential products may infringe the patent rights of others. This could impact AVINZA, PROMACTA, bazedoxifene, lasofoxifene, LGD-4665, PS433540, PS178990 and any other products or potential products.

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

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

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

Ligand periodically receives other communications or has other conversations with the owners of other patents or other intellectual property. If others obtain patents with conflicting claims, Ligand may be required to obtain licenses to those patents or to develop or obtain alternative technology. Ligand may not be able to obtain any such licenses on acceptable terms, or at all. Any failure to obtain such licenses could delay or prevent Ligand from pursuing the development or commercialization of its potential products.

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

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

If Ligand is unable to hire and/or retain key employees, it may not have sufficient resources to successfully manage its assets or its business, and it may not be able to perform its obligations under various contracts and commitments. Furthermore, there can be no assurance that Ligand will be able to retain all of Pharmacopeia s

key management and scientific personnel. If Ligand fails to retain such key employees, it may not realize the anticipated benefits of the Pharmacopeia merger. Either of these could have substantial negative impacts on Ligand s business and its stock price.

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

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

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

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

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

- the difficulty in creating valuable product candidates that target large market opportunities;
- research and spending priorities of potential licensing partners;
- willingness of and the resources available to pharmaceutical and biotechnology companies to in-license product candidates for their clinical pipelines; or
- differences of opinion with potential partners on the valuation of products we are seeking to out-license.

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

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

Ligand was founded in 1987. Ligand has incurred significant losses since its inception. As of June 30, 2009, Ligand s accumulated deficit was $686.4 million.

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

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

The past restatement of Ligand s consolidated financial statements increased the possibility of legal or administrative proceedings. Any future material weaknesses or deficiencies in Ligand s internal control over financial reporting could harm stockholder and business confidence on its financial reporting, its ability to obtain financing and other aspects of its business.

Ligand determined that its consolidated financial statements for the years ended December 31, 2002 and 2003, and for the first three quarters of 2004, as described in more detail in Ligand s 2004 Annual Report on Form 10-K, should be restated. As a result of the restatement, Ligand became subject to a number of additional risks and uncertainties. While no material weaknesses were identified as of June 30, 2009, Ligand cannot assure you that material weaknesses will not be identified in future periods. The existence of one or more material weakness or significant deficiency could result in errors in Ligand s consolidated financial statements. Substantial costs and resources may be required to rectify any internal control deficiencies. If Ligand fails to achieve and maintain the adequacy of its internal controls in accordance with applicable standards, it may be unable to conclude on an ongoing basis that it has effective internal controls over financial reporting. If Ligand cannot produce reliable financial reports, its business and financial condition could be harmed, investors could lose confidence in its reported financial information, or the market price of its stock could decline significantly. In addition, Ligand s ability to obtain additional financing to operate and expand its business, or obtain additional financing on favorable terms, could be materially and adversely affected, which, in turn, could materially and adversely affect its business, its financial condition and the market value of its securities. Moreover, Ligand s reputation with customers, lenders, investors, securities analysts and others may be adversely affected.

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

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

Any conflicts resulting from the patent rights of others could significantly reduce the coverage of Ligand s patents and limit its ability to obtain meaningful patent protection. Ligand has had and will continue to have discussions with its current and potential collaborative partners regarding the scope and validity of its patents and

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other proprietary rights. If a collaborative partner or other party successfully establishes that Ligand s patent rights are invalid, Ligand may not be able to continue its existing collaborations beyond their expiration. Any determination that Ligand s patent rights are invalid also could encourage its collaborative partners to seek early termination of their agreements. Such invalidation could adversely affect Ligand s ability to enter into new collaborations.

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

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

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

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

Under the asset purchase agreements, Ligand s exposure for any indemnification claim brought by Eisai is limited to$30.0 million. However, in certain matters, Ligand s indemnification obligation is not subject to the foregoing limits on liability. For example, Ligand is obligated to indemnify King, without limitation, for all liabilities arising under certain agreements with Catalent Pharma Solutions related to the manufacture of AVINZA. Similarly, Ligand is obligated to indemnify Eisai, without limitation, for all liabilities related to certain claims regarding promotional materials for the ONTAK and Targretin drug products. Ligand cannot predict the liabilities that may arise as a result of these matters. Any claims related to Ligand s indemnification obligations to Eisai could materially and adversely affect Ligand s financial condition.

In connection with the AVINZA sale transaction, King assumed Ligand s obligation to make payments to Organon based on net sales of AVINZA (the fair value of which was $57.7 million as of June 30, 2009). As Organon did not consent to the legal assignment of the co-promote termination obligation from Ligand to King, Ligand remains liable to Organon in the event King defaults on this obligation. Any requirement to pay a material amount to Organon, could adversely affect Ligand s business and the price of its securities.

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

Ligand believes that it carries reasonably adequate insurance for product liability claims. However, Ligand may not be able to maintain its insurance on commercially reasonable terms, or its insurance may not provide

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adequate protection in the case of a product liability claim. To the extent that product liability insurance, if available, does not cover potential claims, Ligand will be required to self-insure the risks associated with such claims.

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

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

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

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

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

Ligand s shareholder rights plan and provisions contained in its certificate of incorporation and bylaws may discourage transactions involving an actual or potential change in Ligand s ownership. In addition, Ligand s board of directors may issue shares of preferred stock without any further action by the stockholders. Such restrictions and issuances may have the effect of delaying or preventing a change in Ligand s ownership. If changes in Ligand s ownership are discouraged, delayed or prevented, it would be more difficult for Ligand s current board of directors to be removed and replaced, even if Ligand s stockholders believe that such actions are in the best interests of Ligand and its stockholders.

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

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

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

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

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

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

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

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

Ligand expects its research and development expenditures over the next three years to continue to be significant. However, Ligand bases its outlook regarding the need for funds on many uncertain variables. Such uncertainties include regulatory approvals, the timing of events outside Ligand s direct control such as product launches by partners and the success of such product launches, negotiations with potential strategic partners, possible sale of assets or other transactions and other factors. Any of these uncertain events can significantly change Ligand s cash requirements.

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

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

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

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

In December 2008, Ligand completed its merger with Pharmacopeia. The success of the merger will depend, in part, on Ligand s ability to realize the anticipated synergies, growth opportunities and cost savings from integrating Pharmacopeia s business with Ligand s business. Ligand s success in realizing these benefits

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and the timing of this realization depend upon the successful integration of the operations of Pharmacopeia. The integration of two independent companies is a complex, costly and time-consuming process. It is possible that the integration process could result in the loss of key employees, diversion of each company s management s attention, the disruption or interruption of, or the loss of momentum in, each company s ongoing business or inconsistencies in standards, controls, procedures and policies, any of which could adversely affect either company s ability to maintain relationships with licensors, collaborators, partners, suppliers and employees or Ligand s ability to achieve the anticipated benefits of the merger, or could reduce Ligand s earnings or otherwise adversely affect the business and financial results of the combined company and, as a result, adversely affect the market price of Ligand s common stock.

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

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

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

Ligand may undertake strategic acquisitions in the future and any difficulties from integrating such acquisitions could adversely affect Ligand s stock price, operating results and results of operations.

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

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

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In addition, Ligand will likely experience significant charges to earnings in connection with its efforts, if any, to consummate acquisitions. For transactions that are ultimately not consummated, these charges may include fees and expenses for investment bankers, attorneys, accountants and other advisors in connection with Ligand s efforts. Even if Ligand s efforts are successful, it may incur, as part of a transaction, substantial charges for closure costs associated with elimination of duplicate operations and facilities and acquired in-process research and development charges. In either case, the incurrence of these charges could adversely affect Ligand s results of operations for particular quarterly or annual periods.

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

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

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

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

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

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THE COMPANIES

Ligand Pharmaceuticals Incorporated

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

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

Ligand was incorporated in Delaware in 1987. Ligand s principal executive offices are located at 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 focusing 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.

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

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

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THE 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.

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:

- 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;

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

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

Quorum Required

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. In the event that a quorum is not present at the special meeting, the special meeting may be adjourned or postponed to solicit additional proxies.

Voting Rights

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, executed 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 be received before the beginning of the special meeting. 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 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 approximately [__]%.

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 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.

Recommendation of Neurogen s Board of Directors

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

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

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Voting in Person

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

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

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

Adjournments and Postponements

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

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

Stock Certificates

You should not send in any stock certificates with your proxy card. If you are a 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 this letter of transmittal.

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.

Questions and Additional Information

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

Neurogen Corporation

45 NE Industrial Road

Branford, CT 06405

Attn: Corporate Secretary

(203) 488-8201

Availability of Documents

Documents incorporated by reference (excluding exhibits to those documents unless the exhibit is specifically incorporated by reference into those documents) will be provided by first class mail without charge to each person to whom this proxy statement/prospectus is delivered upon written or oral request of such person to the Corporate Secretary of Neurogen. In addition, a list of stockholders entitled to vote at the special meeting will be available for inspection at Neurogen s principal executive offices at least 10 days before the date of the special meeting and continuing through the special meeting for any purpose germane to the meeting. The list will also be available at the meeting for inspection by any stockholder present in person at the meeting.

THE MERGER

General

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

General Description of the Merger

In the merger, Merger Sub will merge with and into 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 price 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 closing. 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 of Neurogen s actual net cash as of the third trading day before the date of the special meeting of Neurogen stockholders or 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 net cash pre-merger 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 up to four contingent value rights agreements, or CVR agreements, if the Aplindore program and the real properties are not sold by Neurogen before the merger, the forms of which are attached to this proxy statement/prospectus as *Annex B*, *Annex C*, *Annex D* and *Annex E*. The CVR agreements set forth the rights that former 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 with limited exceptions.

Aplindore CVR. If the Aplindore program is not sold or cancelled before the merger, each Neurogen stockholder shall be issued 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 costs and expenses of sale, plus

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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.

Merck CVR. The Merck CVR agreement provides for the payment of a pro rata portion of $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 50% of the net proceeds if such program is sold back to Merck before the milestone payment is made.

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. 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 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.

Background of the Merger

Due to dramatic changes in the cost of obtaining capital for the biotech industry in the last two years, particularly for clinical development stage companies such as Neurogen, and the Neurogen board of directors belief that in the near term the industry will continue to contract and combine, in September 2008 the Neurogen board of directors requested its financial advisor, MTS Health Partners, to start a formal strategic process by contacting potential strategic acquirors. MTS Health Partners was formally retained on September 8, 2008.

On September 25, 2008, at a regularly scheduled meeting of the Neurogen board of directors, MTS Health Partners made a presentation outlining for the Neurogen board of directors the strategic process to be undertaken to identify potential strategic acquirors. MTS Health Partners and the Neurogen board of directors also discussed potential interim financing possibilities in the range of $10 million to $15 million, and the Neurogen board of directors subsequently instructed MTS Health Partners to explore the feasibility of obtaining such financing on attractive terms.

Thereafter, MTS Health Partners contacted approximately 80 mid to large capitalization potential acquirors, as well as 28 smaller public and private biotechnology companies, including Ligand, that might have had an interest in a merger with Neurogen. Neurogen s management entered into confidential disclosure agreements with 32 of those companies and conducted meetings with 15 of them. MTS Health Partners requested indications of interest from the contacted companies by January 26, 2009.

During the same period, MTS Health Partners reached out to four venture capital firms in connection with providing interim financing to Neurogen, and Neurogen s management conducted preliminary meetings with three of these four firms. However, as a result of the continuous decline in the value of Neurogen s stock and the likelihood that potential financing terms would be relatively unattractive, leading to significant dilution for Neurogen stockholders, the Neurogen board of directors ultimately decided against proceeding with any financing transaction at that time.

On January 26, 2009, one of the companies with whom Neurogen s management had met, a large European pharmaceutical company, or Bidder A, sent Neurogen an initial non-binding indication of interest to acquire all of the issued and outstanding equity of Neurogen for a cash payment of $10 million plus the balance of Neurogen s cash less all liabilities. Neurogen did not receive any other indication of interest at that time.

On February 4, 2009, Neurogen entered into a confidential disclosure agreement with Ligand for purposes of facilitating further discussions regarding a potential transaction.

On February 5, 2009, at a regularly scheduled meeting of the Neurogen board of directors, MTS Health Partners and Neurogen s President and Chief Executive Officer, Stephen R. Davis, reported on the status of due diligence being conducted by Bidder A. MTS Health Partners then summarized for the Neurogen board of directors the status of discussions with other potential acquirors. On March 3, 2009, Bidder A informed MTS Health Partners that it had decided not to participate further in the process due to an influx of acquisition opportunities and an internal portfolio reorganization.

Around the same time, MTS Health Partners and Neurogen s management contacted 34 additional small market capitalization companies to gauge their interest in Neurogen s clinical and preclinical development assets, its net cash and/or tax assets.

On March 13, 2009, the Neurogen board of directors held a special telephonic meeting, with MTS Health Partners present, to discuss the potential implications of Bidder A s decision, and Neurogen s strategic options, including continuing to pursue a sale of Neurogen or its assets, the possibility for partnering the Aplindore program, or a liquidation of Neurogen. The Neurogen board of directors explored the feasibility and expected timeline of each option, and subsequently instructed Neurogen s management to continue discussions with potential acquirors.

Neurogen s management continued to engage in discussions with the companies that MTS Health Partners had contacted throughout the first half of 2009. On April 16, 2009, Neurogen received an initial offer from Ligand for 100% of the issued and outstanding equity of Neurogen. The respective managements of Neurogen and Ligand engaged in several discussions regarding the offer and, on April 27, 2009, Ligand submitted a revised offer reflecting those discussions. The revised offer provided for Ligand to purchase 100% of Neurogen s issued and outstanding equity for $13 million, payable in Ligand common stock, up to a maximum of 5,200,000 shares.

In addition, Ligand would issue two contingent value rights to Neurogen stockholders, one of which would entitle Neurogen stockholders to receive the net cash proceeds, if any, in excess of $4 million (with Ligand retaining all amounts below $4 million) from the sale of Neurogen s real properties in Branford, Connecticut, or the real estate, and the second of which would entitle Neurogen stockholders to receive the net proceeds from the sale or license of the Aplindore program. The revised offer also provided that Neurogen and Ligand would agree upon an outside date for the sale or license of the Aplindore program.

On the same day, the Neurogen board of directors held a regularly scheduled meeting with representatives of MTS Health Partners, Latham & Watkins LLP, or Latham, legal counsel to Neurogen, and Richards, Layton & Finger, or Richards Layton, Delaware legal counsel to Neurogen present. Mr. Davis and MTS Health Partners updated the Neurogen board of directors on the status of discussions with various potential acquirors. The Neurogen board of directors then analyzed the business, level of interest in Neurogen, market capitalization, stock liquidity and cash position of Ligand, as well as other potential acquirors that had either met with or engaged in telephonic discussions with Neurogen s management. Representatives from Latham and Richards Layton next explained the process of liquidating a public Delaware corporation. The Neurogen board of directors weighed the relative benefits and risks of liquidation versus a sale of the company or its assets, and again instructed Neurogen s management to continue discussions with potential acquirors.

On May 12, 2009, Neurogen issued a press release formally announcing that it was pursuing strategic options, including a sale of the company or a sale of all or substantially all of its assets. In addition, the press release announced that while Neurogen pursued these strategic options, it also had been taking steps to conserve capital, including suspending further enrollment of new patients in its ongoing Phase 2 studies of Aplindore and eliminating approximately 75% of its staff positions since December 31, 2008.

On June 8, 2009, the Neurogen board of directors held a regularly scheduled meeting with MTS Health Partners present. Mr. Davis and MTS Health Partners reviewed Ligand s revised offer of April 27, 2009, as well as indications of interest from two new potential acquirors, or Bidder B and Bidder C, respectively. Bidder B, a Nasdaq listed biotech company with a market capitalization of approximately $62 million at the time stated in its indication of its interest that it was interested in exploring a transaction in which Bidder B would acquire 100% of Neurogen s outstanding stock for $20 million in Bidder B stock. Bidder C, a biotech company listed on a non-U.S. exchange with a market capitalization on the foreign exchange of approximately $30 million, did not submit an indication of interest by the prescribed deadline but gave Neurogen s management a verbal indication that it was interested in merging with Neurogen in a transaction that valued Neurogen close to or possibly at Bidder C s market value. The Neurogen board of directors then discussed the business prospects of each of Bidder B and Bidder C, each of whom were focused primarily on a single product and each of whom would require the sale of their lead product or the infusion of significant additional funds beyond those gained in a combination with Neurogen to achieve the next logical milestone in the development of their respective lead products. The Neurogen board of directors further discussed the merits of a potential transaction with respect to each bidder, including the feasibility of a combined company, the likely ability to raise capital to pursue a combined business plan and the potential rewards of a combined portfolio. Following the discussion, the Neurogen board of directors instructed Neurogen s management to continue discussions with all potential acquirors who had expressed an interest in acquiring or merging with Neurogen and to conduct additional diligence on each company.

On June 19, 2009, MTS Health Partners sent a written notice to each interested party describing the process for submitting proposals with a request for comprehensive bids by June 26, 2009. Bidder B and Ligand submitted bids in response. Bidder B s offer consisted of $24.2 million in market value of Bidder B stock in exchange for 100% of the issued and outstanding equity of Neurogen. Discussions between the respective managements of Bidder B and Neurogen indicated that Bidder B was attempting to raise between $10 million to $15 million, of approximately $30 million it estimated it needed in order to complete certain ongoing Phase 3 studies and get to its next logical development milestone.

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Ligand s final bid, submitted on June 26, 2009, consisted of a merger in which Ligand would pay Neurogen stockholders approximately $11 million in market value of Ligand common stock, up to a maximum of 4.2 million shares of Ligand common stock, for 100% of the issued and outstanding equity of Neurogen. In addition, Ligand offered to pay Neurogen stockholders 100% of the net cash proceeds from the sale of Neurogen s real estate and Aplindore program, if the sales were completed before the closing of the transaction with Ligand. Further, Ligand offered two CVRs, one of which related to Neurogen s VR1 program and the other of which related to Neurogen s H3 antagonist program. The proposed CVR relating to Neurogen s VR1 program provided for either (i) $3 million in cash upon receipt by Ligand of the milestone payment from Merck under a research collaboration and license agreement with Neurogen or (ii) 50% of the net cash proceeds in the event Ligand sells the VR1 program back to Merck. The proposed CVR relating to Neurogen s H3 antagonist program provided for $4 million in cash if Ligand, in its sole discretion, licensed Neurogen s H3 antagonist program before the third anniversary of the closing date of the transaction with Neurogen.

Subsequent to the bid deadline of June 26th, on June 29, 2009 Bidder C proposed a merger of equals in which Bidder C stockholders would own 59% and Neurogen stockholders would own 41% of the combined company prior to reflecting the effect of a further potential investment in the combined company by existing stockholders of Bidder C. Including such potential further investment, Bidder C hoped to create a combined company with approximately $30 million in cash to be jointly operated by Neurogen and Bidder C.

On July 8, 2009, four members of the Neurogen board of directors held an informational telephonic call with representatives of MTS Health Partners present, during which each of Bidder B and Bidder C made presentations remotely via the Internet concerning their respective offers. After the presentations, the Neurogen board members discussed the advantages and disadvantages associated with each bid, including Ligand s bid, and concluded that, based on a combination of factors, including the certainty and financial terms of each offer, the relative liquidity of the consideration proposed in each offer, the potential for Neurogen stockholders to recognize any upside relating to the Aplindore program, and the strength of the management team at each company, Ligand s bid was the most attractive offer but that management should continue its efforts to improve each bid. Consistent with prior directions from the Neurogen board of directors, the board members participating in the call instructed management to continue Neurogen s diligence of each bidder and to continue advancing discussions with Ligand in order to attempt to improve certain aspects of Ligand s bid and to continue discussions with Bidder B and Bidder C in order to encourage them to increase their bids.

Following the meeting, Neurogen s and Ligand s respective managements further negotiated the terms of Ligand s offer. The parties agreed that as part of Ligand s offer, Ligand would provide two additional CVRs, one for each of the real estate and the Aplindore program in the event that either was not sold before the closing of the transaction. The CVRs would entitle Neurogen stockholders to receive the net proceeds of any sale of the real estate and the Aplindore program within six months following the closing of the transaction with Ligand. Neurogen management also conducted additional diligence regarding the bidders. With respect to Bidder B, Neurogen management determined that certain regulatory relief would likely be required for Bidder B to complete the planned Phase 3 studies within its forecast budget and timelines. With respect to Bidder C, Neurogen management identified certain concerns relating to Phase 2 results of its lead product candidate.

On July 16, 2009, Mr. Davis again contacted both Bidder B and Bidder C regarding their respective offers. Bidder B reiterated its previous bid and confirmed that it would not raise its offer. Bidder C expressed that it would consider raising its offer. On the morning of July 17, 2009, Bidder C submitted a revised offer for a merger in which Bidder C stockholders would own 59% of the combined company and Neurogen stockholders would own 41% of the combined company, but provided that should Bidder C s stock price drop more than 16%, Bidder C and Neurogen stockholders would own 55% and 45%, respectively. Consistent with its initial proposal, Bidder C s offer also included a proposed further investment in the combined company by Bidder C s largest stockholder with the goal of creating a combined company with approximately $30 million in cash and thereby reducing the percentage ownership of Neurogen stockholders from the percentages described above.

On the afternoon of July 17, 2009, the Neurogen board of directors held a special telephonic meeting, with representatives of MTS Health Partners and Latham present, to discuss again the advantages and disadvantages associated with each of the three bids. The Neurogen board of directors discussed specific issues identified by management in its due diligence review of each of the bidders together with the feasibility of, and the potential upside and risks associated with, the combined business plans of each proposal. Latham made a presentation on the legal considerations related to each bid, and MTS Health Partners made a presentation on the financial aspects of each bid. After a lengthy discussion of each bid, the Neurogen board of directors determined that Neurogen should attempt to engage both Ligand and Bidder B in negotiating a merger agreement with the goal of completing a deal with one of the parties. At this time, Neurogen s board of directors determined that it should not advance discussions with Bidder C due to concerns identified by management in its diligence of Bidder C.

On July 19, 2009, Bidder B informed Neurogen that Bidder B s board of directors had become uneasy about the prospect of announcing a deal with Neurogen while simultaneously attempting to close another transaction. Bidder B indicated that it might be interested in moving forward if Neurogen was willing to wait until Bidder B completed the other transaction and if Neurogen was prepared to accept a lower price than that reflected in its final offer reiterated on July 16, 2009. Mr. Davis contacted each of Neurogen s board members individually to inform them of Bidder B s decision and continued to advance discussions with Ligand.

Between July 17, 2009 and July 22, 2009, the respective management of Neurogen and Ligand discussed Ligand s proposal and on July 22, 2009, the parties agreed to move to contract negotiations based upon Ligand s final offer as modified in the parties intervening discussions.

On July 24, 2009, Neurogen contacted Milbank, Tweed, Hadley & McCloy LLP, or Milbank, to request Milbank s services as legal advisor for the proposed merger with Ligand in place of Latham, and Neurogen subsequently engaged Milbank for such purpose. Milbank had represented Neurogen with respect to a variety of corporate matters from time to time in the past.

On July 28, 2009, Neurogen sent to Ligand a draft of the merger agreement prepared by Milbank, which reflected the negotiations between Neurogen s and Ligand s respective managements since Ligand submitted its final bid. On August 3, 2009, Neurogen and Ligand entered into a mutual confidentiality and exclusivity agreement, pursuant to which Neurogen granted Ligand a period of exclusivity with respect to a merger or acquisition transaction until August 14, 2009. On the same day, Ligand sent Neurogen draft agreements governing the CVRs.

Throughout August 2009, Neurogen s management and Milbank engaged in discussions with Ligand and its legal advisor, Stradling Yocca Carlson & Rauth, or Stradling, regarding various business and legal issues in the merger agreement and the agreements governing the CVRs. Ligand also required that Mr. Davis, along with various investment funds controlled by Julian Baker and Felix Baker, or the Baker funds, and Warburg Pincus Private Equity VIII, L.P., or Warburg, each of which has nominated one member to the Neurogen board of directors and together own approximately 32% of the outstanding shares of Neurogen common stock, to enter into voting agreements with Ligand requiring them, among other things, to vote their shares of Neurogen common stock in favor of the transaction with Ligand. Mr. Davis and these stockholders subsequently agreed to enter into the voting agreements.

On August 10, 2009, Ligand s management sent to each member of the Ligand board of directors, in anticipation of a special meeting of the Ligand board of directors to be held on August 10, 2009, a copy of the draft merger agreement with Neurogen, together with a summary of the material terms of the merger agreement prepared by Stradling.

On August 10, 2009, the Ligand board of directors held a special telephonic meeting to discuss the proposed merger with Neurogen, with six of the seven members of the Ligand board of directors and representatives of an investment bank and Stradling present. Mr. Higgins summarized the background and context for the proposed

merger, including the proposed valuation of Neurogen. Management then reviewed its primary diligence findings with Ligand s board of directors, including a review of each of Neurogen s primary partnered and un-partnered programs, projects and technologies. Representatives of an investment bank then provided an analysis of the proposed merger, reviewing the transaction structure, pipeline assets, management, directors and owners, stock performance, pro forma ownership, premium, and various other considerations. Representatives of Stradling then reviewed the merger agreement for Ligand s board of directors, including consideration (and adjustments thereto), tax treatment, treatment of options and warrants, interim operations, closing conditions, non-solicitation and fiduciary-out provisions, break-up fee, representations and warranties, indemnification, insurance, and the S-4 registration /proxy statement process. Several questions were asked and answered during each presentation and a full discussion ensued.

At the conclusion of the meeting, Mr. Higgins indicated that final negotiations on contract language would take place with Neurogen, and that it was anticipated that both the Neurogen board of directors and the Ligand board of directors would be asked to consider approval of a final merger agreement and the proposed merger in about a week.

On August 14, 2009, Neurogen agreed to extend the period of exclusivity granted to Ligand with respect to a merger or acquisition transaction until August 22, 2009. On August 22, 2009 this period of exclusivity was extended again until August 26, 2009.

On August 17, 2009, Neurogen s management sent to each member of the Neurogen board of directors, in anticipation of a special meeting of the Neurogen board of directors to be held on August 18, 2009, a presentation prepared by MTS regarding its fairness opinion, and draft resolutions to be considered by the Neurogen board of directors. Before the meeting on August 18, 2009, Neurogen s management sent to each member of the Neurogen board of directors, a copy of the draft merger agreement with Ligand, together with a summary of the material terms of the merger agreement prepared by Milbank.

On August 18, 2009, the Neurogen board of directors held a special telephonic meeting to discuss the proposed merger with Ligand, with all members of the Neurogen board of directors and representatives of MTS Health Partners and Milbank present. Representatives of MTS Health Partners began the meeting by providing an overview of the strategic process undertaken by Neurogen with the assistance of MTS Health Partners which ultimately led Neurogen to negotiate and finalize a merger agreement with Ligand. Representatives of MTS also reviewed for the Neurogen board of directors the financial analysis it performed in connection with its fairness opinion, including the methodologies utilized in evaluating the fairness of the proposed merger consideration, and stated that MTS expected to be in a position to deliver its fairness opinion once the merger agreement is finalized. Members of the Neurogen board of directors then asked various questions regarding MTS Health Partners analysis, including the objective value of the fairness opinion to be delivered by MTS, and MTS Health Partners answered each question to the Neurogen board of directors satisfaction.

Next, Milbank updated the Neurogen board of directors on its fiduciary duties in relation to the merger with Ligand and, along with Mr. Davis, described for the Neurogen board of directors each material term of the merger agreement, using the summary prepared by Milbank in anticipation of the special meeting. The Neurogen board of directors, Mr. Davis and Milbank then discussed the material terms of the merger agreement, including Ligand s right to terminate the merger agreement if it would be required to issue more than 4.2 million shares of stock in the merger, and Neurogen s obligation to pay a termination fee of $225,000 upon such termination by Ligand. After a lengthy discussion, the Neurogen board of directors directed management to request a revision to allow Neurogen to terminate the merger agreement in the event application of Ligand s share cap would cause Neurogen stockholders to receive less than $11 million, as adjusted in accordance with the merger agreement, and pay Ligand the applicable termination fee. Ligand subsequently agreed to the change.

At the conclusion of the meeting, Mr. Davis indicated that final negotiations on contract language would take place with Ligand during the remainder of the week, and that it was anticipated that both the Neurogen board of directors and the Ligand board of directors would be asked to consider approval of a final merger agreement and the proposed merger later in the week.

During the remainder of the week, Neurogen s management and Milbank negotiated the few outstanding issues in the merger agreement with Ligand and Stradling, including the formula for determining Neurogen s cash position at closing, and finalized the merger agreement and the CVR agreements. The parties also continued to work on finalizing the Neurogen disclosure letter.

On August 18, 2009, the Ligand board of directors approved, by unanimous written consent, the merger agreement and the transactions contemplated thereby, including the merger.

On August 20, 2009, MTS delivered to the Neurogen board of directors its opinion that, subject to the various assumptions and qualifications set forth in its opinion, the merger consideration is fair to Neurogen stockholders from a financial point of view. The full text of the written opinion of MTS, which sets forth, among other things, the procedures followed, assumptions made, matters considered and limitations on the review undertaken in connection with such opinion is set forth as *Annex G* to this proxy statement/prospectus. On the same day, the Neurogen board of directors approved, by unanimous written consent, the merger agreement, and deemed the merger agreement and the transactions contemplated thereby, including the merger, to be advisable and in the best interests of Neurogen and its stockholders, and recommended that Neurogen stockholders adopt the merger agreement and approve the merger.

On August 23, 2009, the parties finalized the Neurogen disclosure letter and executed the merger agreement. Mr. Davis, Warburg, the Baker funds, Julian Baker and Ligand executed the voting agreements.

On August 24, 2009, before the opening of the markets, Ligand and Neurogen issued a joint press release announcing the execution of the merger agreement and the transactions contemplated thereby, including the merger. On the same day, Neurogen and Ligand each filed a Current Report on Form 8-K in connection with their execution of the merger agreement.

Neurogen s Reasons for the Merger; Recommendation of Neurogen Board of Directors

Following a meeting of the Neurogen board of directors on August 18, 2009, by unanimous written consent dated August 20, 2009, the members of the Neurogen board of directors 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. The Neurogen board of directors has approved the merger agreement and the merger, and recommends that Neurogen stockholders adopt the merger agreement and approve the merger at the special meeting of Neurogen stockholders.

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

- the Neurogen board of directors familiarity with the business, operations, properties and assets, financial condition, business strategy and prospects of Neurogen, as well as the risks involved in achieving those prospects (including the risk factors set forth in Neurogen s Annual Report on Form 10-K for the year ended December 31, 2008 and Neurogen s Quarterly Report on Form 10-Q for the quarter ended June 30, 2009);

- the nature of the industry in which Neurogen competes, industry trends and economic and market conditions, both on a historical and a prospective basis;

- the risk that Neurogen would be unable to partner the Aplindore program on financial and strategic terms that would be acceptable to Neurogen, or at all;

- the risk that Neurogen would be unable to obtain financing necessary to continue operating on a stand-alone basis on relatively attractive terms, or at all;

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the fact that Neurogen and MTS have engaged in a comprehensive strategic process to sell Neurogen or its assets since October 2008, including contacting approximately 142 potential acquirors and merger partners, and that the process yielded only two definitive proposals for Neurogen or its assets in addition to the proposal received from Ligand, one of which was subsequently withdrawn and the other came from a company with respect to which Neurogen identified significant due diligence concerns;

publicly available information and information provided by Ligand concerning its businesses, financial condition, operating results and prospects, and the results of Neurogen s due diligence review of Ligand;

the Neurogen board of directors belief that if Ligand and Neurogen s assets can be effectively and efficiently integrated, the combined company will have better opportunities for future growth;

Neurogen s strategic alternatives, including remaining an independent entity, entering into a sale of the company or a merger, and immediate liquidation, together with an assessment of the risks attendant to each strategic alternative;

the financial analysis prepared by MTS and presented in its opinion to the Neurogen board of directors on August 20, 2009, that subject to the various qualifications and assumptions set forth in its opinion, the merger consideration is fair to Neurogen stockholders from a financial point of view (for a further discussion of the MTS opinion, see The Merger Opinion of Neurogen s Financial Advisor beginning on page 50 of this proxy statement/prospectus);

the liquidation scenario prepared by MTS and presented to the Neurogen board of directors on August 18, 2009, which projected a net present value in cash of $0.15 per share upon a liquidation of Neurogen, as compared to an estimated $0.20 per share from the merger consideration (assuming net proceeds of approximately $2,700,000 from the sale of Neurogen s real properties located in Branford, Connecticut), which estimate does not include an additional estimated $0.19 per share, if any, payable to Neurogen stockholders upon the sale or license, if any, of the assets that are the subject of the other three contingent value rights, including the Aplindore program;

the fact that a significant majority of the merger consideration consists of Ligand common stock, which will provide Neurogen stockholders with the opportunity to share in the future growth and expected synergies of the combined company while allowing them the flexibility of selling all or a portion of those shares;

the fact that Neurogen stockholders will receive the net proceeds, in cash or stock of the acquiror, from the sale, if any, of Neurogen s Aplindore program for the treatment of RLS and Parkinson s disease, either in the merger if Neurogen sells the programs before the effective time of the merger, or pursuant to the contingent value rights to be issued by Ligand if Ligand sells the programs within six months after the merger, and Ligand has agreed to use commercially reasonable efforts in good faith to conduct the sales;

the fact that the Neurogen stockholders will receive the net proceeds in cash from the sale, if any, of Neurogen s real properties located at 15, 35 and 45 NE Industrial Road, Branford, Connecticut 06405, either in the merger if Neurogen sells the real properties before the effective time of the merger, or pursuant to the contingent value rights to be issued by Ligand if Ligand sells the real properties within six months after the merger, and Ligand has agreed to use commercially reasonable efforts in good faith to conduct the sales;

the contingent value rights represent further potential upside to the upfront merger consideration, which if paid, would provide additional value for Neurogen stockholders;

the ability of the Neurogen board of directors, under certain circumstances specified in the merger agreement, to consider and respond to an unsolicited bona fide acquisition proposal from a third party before obtaining the approval of Neurogen stockholders of the merger, and the ability of the Neurogen board of directors to terminate the merger agreement to accept a superior proposal (as such term is defined in the merger agreement) upon the payment to Ligand of a termination fee of $475,000;

the ability of the Neurogen board of directors, under the merger agreement, to withdraw or modify, in a manner adverse to Ligand, its recommendation in favor of the adoption of the merger agreement and approval of the merger, after providing Ligand five days written notice of its intention to do so, if the Neurogen board of directors concludes in good faith, after the receipt of advice of outside legal counsel that a failure to take such actions would be inconsistent with its fiduciary duties under applicable law, subject to payment of a $475,000 termination fee to Ligand if, as a result, Ligand terminates the merger agreement within the time specified in the merger agreement;

the financial and other terms and conditions of the merger agreement, and the other transactions contemplated by the merger agreement, were the product of extensive arms-length negotiations between the parties and Neurogen s board of directors view of the likelihood of closing the transaction;

the fact that completion of the merger and the other transactions contemplated by the merger agreement is not conditioned on Ligand s ability to obtain financing or an affirmative vote of its stockholders; and

the voting agreements entered into by various Neurogen stockholders who collectively own approximately 32% of the outstanding shares of Neurogen common stock, which demonstrated their support for the transaction.

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

the risks and costs to Neurogen if the transactions contemplated by the merger agreement do not close, including the diversion of management and employee attention, potential employee attrition from Neurogen s small staff, the effect on business relationships and the incurrence of transaction-related expenses;

the potential impact of the restrictions under the merger agreement on Neurogen s ability to take certain actions during the period before the effective time of the merger (which could delay or prevent Neurogen from undertaking business opportunities that may arise pending completion of the merger);

the risk that declines in the value of Ligand Pharmaceutical s stock, combined with a cap of 4.2 million shares to be issued by Ligand in the merger, could cause Neurogen stockholders to receive in the aggregate less than $11,000,000 (as adjusted in accordance with the merger agreement) in the merger and a per share price less than MTS projected per share price from a liquidation of Neurogen, if the Neurogen board of directors decides not to exercise Neurogen s termination right in such event and the risk that the Neurogen board of directors does decide to exercise Neurogen s termination right in such event, Neurogen would owe a $225,000 termination fee and there would be no merger with Ligand;

the risk that the CVRs may yield little or no value for Neurogen stockholders or that sales pursuant to the CVRs do not occur before the applicable outside dates, thereby causing Neurogen stockholders to forfeit any value that may be obtained from the CVRs;

the illiquidity of the CVRs, due to general restrictions on transfer contained in the CVR agreements;

certain provisions of the merger agreement may have the effect of discouraging proposals for alternative acquisition transactions involving Neurogen, including: (i) the restriction on Neurogen s ability to solicit proposals for alternative transactions; and (ii) the requirement that Neurogen pay a termination fee of $475,000 to Ligand in certain circumstances following the termination of the merger agreement;

the risk that certain of Neurogen s directors and executive officers may have interests in the merger as individuals that are in addition to, or that may be different from, the interests of Neurogen s stockholders; and

other risks commonly associated with transactions such as the merger, including risks associated with the business of Ligand, Neurogen and the combined company, including those described in the section of this proxy statement/prospectus entitled Risk Factors beginning on page 18 of this proxy statement/prospectus.

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

Opinion of 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 shares 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 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.

In connection with rendering the opinion described above and performing its related financial analyses, MTS:

- reviewed a draft copy of the merger agreement dated August 19, 2009;
- reviewed annual reports to stockholders and Annual Reports on Form 10-K of each of Neurogen and Ligand for the year ended December 31, 2008;
- reviewed the Quarterly Reports on Form 10-Q of each of Neurogen and Ligand, respectively, for the quarter ended June 30, 2009;
- reviewed the Current Reports on Form 8-K of each of Neurogen and Ligand for the period from January 1, 2009 through August 20, 2009;
- reviewed certain financial projections concerning Neurogen prepared by Neurogen s management;
- reviewed certain public research reports concerning Neurogen prepared by certain research analysts (including the financial projections contained therein) for the years ending December 31, 2007 and 2008 and reviewed and discussed such reports (and financial projections) with management of Neurogen;
- reviewed certain financial projections concerning Ligand prepared by Ligand s management;
- reviewed certain public research reports concerning Ligand prepared by certain research analysts (including financial projections contained therein) and reviewed and discussed such reports (and financial projections) with management of Ligand;

held discussions with members of management of each of Neurogen and Ligand regarding the businesses, operations, financial condition and prospects of their respective companies;

reviewed the historical reported prices and trading multiples of shares of Neurogen common stock and Ligand common stock;

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- reviewed publicly available financial data, stock market performance data and trading multiples of certain companies the securities of which are publicly traded, as MTS deemed appropriate;

- reviewed the financial terms, to the extent publicly available, of certain recent business combinations that MTS considered to be comparable to the merger;

- reviewed the pro forma consolidated financial results, financial condition and capitalization of Ligand after giving effect to the merger;

- performed such other financial studies, analyses and investigations as MTS deemed appropriate; and

- held discussions with members of Neurogen management and Neurogen s real estate broker regarding the real estate sale process and consideration.

In arriving at its opinion, MTS assumed and relied upon, without independent verification, the accuracy and completeness of all of the financial, legal, regulatory, tax, accounting and other information provided to, discussed with or reviewed by MTS. The MTS opinion does not address any legal, regulatory, tax or accounting matters. MTS did not conduct any independent verification of any financial projections of Neurogen or Ligand. With respect to each of the financial projections prepared by management of Neurogen and Ligand, respectively, MTS assumed, without independent verification, that they were reasonably prepared on bases reflecting the best currently available estimates and judgments of the future financial performance of Neurogen and Ligand, respectively. For purposes of its analysis of Ligand and after discussions with Ligand s management, with the consent of Neurogen, MTS also used and relied on publicly available projections of certain equity research analysts who report on Ligand and assumed, without independent verification, that such projections represent reasonable estimates and judgments as to the future financial performance of Ligand.

MTS did not make any independent evaluations or appraisals of the assets or liabilities of Neurogen or Ligand or any of their respective subsidiaries, and was not furnished with any such evaluations or appraisals. MTS assumed, in all respects material to its analysis, that the representations and warranties of each party contained in the merger agreement are true and correct, that each party will perform all of the covenants and agreements required to be performed by it under the merger agreement and that all conditions to the consummation of the merger will be satisfied without waiver thereof. MTS also assumed that any governmental, regulatory and other consents and approvals contemplated by the merger agreement will be obtained and that, in the course of obtaining any of those consents, no restrictions will be imposed or waivers made that would have an adverse effect on the contemplated benefits of the merger.

The MTS opinion was based on economic, market, financial and other conditions existing, and on the information made available to MTS, as of the date of the opinion and MTS assumed no obligation to update, revise or reaffirm its opinion, unless otherwise mutually agreed to by Neurogen and MTS. The MTS opinion does not address Neurogen s board of directors underlying business decision to proceed with the merger, the relative merits of the merger compared to all other alternatives available to Neurogen, or whether such alternatives exist. MTS did not express any opinion as to the prices or ranges of prices at which shares of Neurogen common stock or shares of Ligand common stock would trade at any time following the announcement or consummation of the merger. The MTS opinion does not in any manner address the fairness of the amount or nature of compensation to any of Neurogen s officers, directors or employees, or any class of such persons, relative to the compensation to Neurogen s public stockholders. The MTS opinion was reviewed and approved by a fairness committee of MTS Securities, LLC.

The following is a summary of the material financial analyses delivered by MTS to Neurogen s board of directors in connection with rendering the opinion described above. The following summary, however, does not purport to be a complete description of the financial analyses performed by MTS. The order of analyses described does not represent the relative importance or weight given to those analyses by MTS. Some of the summaries of the financial analyses include information presented in tabular format. The tables must be read together with the full text of each summary and are alone not a complete description of MTS financial analyses.

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Except as otherwise noted, the following quantitative information, to the extent that it is based on market data, is based on market data as it existed on or before August 20, 2009 and is not necessarily indicative of current market conditions.

***Historical Stock Price and Implied Offer Premiums Analysis*.** MTS reviewed the historical trading prices for shares of Neurogen common stock on certain dates and the average trading prices for certain periods. In addition, MTS analyzed the consideration to be received by holders of Neurogen common stock in relation to such trading prices based on consideration of $0.20 per share and $0.39 per share. The following table presents the results of this analysis:

Measurement Period	Stock Price	Offer Value of $13.7 million[1] ($0.20 per share)[3]	Offer Value of $27 million[2] ($0.39 per share)[3]
Stock Price as of 8/19/09	$ 0.21	(8)%	82%
10 Day Average Stock Price	$ 0.21	(6)%	85%
20 Day Average Stock Price	$ 0.22	(8)%	80%
30 Day Average Stock Price	$ 0.21	(4)%	89%
3 Months Average Stock Price	$ 0.23	(13)%	72%
52 Week High Stock Price (8/11/08)	$ 0.44	(57)%	(15)%
52 Week Low Stock Price (12/11/08)	$ 0.07	184%	459%

(1) $13.7 million includes reference amount of $11 million and real estate value of $2.7 million.

(2) $27 million includes reference amount of $11 million, real estate value of $2.7 million, Aplindore program consideration of $6 million, H3 CVR of $4 million and VR1 CVR of $4 million.

(3) Based on 68.974 million basic shares outstanding as of August 12, 2009.

***Neurogen Valuation Analysis*.** MTS analyzed the valuation of Neurogen using four different methodologies: discounted cash flow analysis; comparable companies analysis; comparable acquisitions analysis; and liquidation analysis. The results of each of these analyses are summarized below.

Discounted Cash Flow Analysis.

MTS performed a discounted cash flow analysis on Neurogen based on Neurogen management forecasts through 2025 using discount rates of 10.0%, 12.5% and 15.0% while applying a cumulative probability of success of 30%. The analysis was based on the following key assumptions:

- Aplindore continues Phase 2b study in RLS and completes the on as needed, or PRN, basis dosing study;

- Aplindore is partnered after completing the PRN dosing study under the following terms provided by Neurogen management: (a) there are peak Aplindore RLS sales of $375 million in 2021, (b) Neurogen receives 30% royalties on Aplindore RLS sales, and (c) Neurogen receives a $50 million initial payment after the PRN study, a $50 million NDA filing milestone payment in 2013 and a $75 million approval milestone payment in 2014;

- there is a cumulative probability of success, or POS, of 30%, including POS by stage of 66.7% in Phase 2b, 50% in the PRN dosing study, and 90% in filing to approval; and

Neurogen raises $20 million by issuing 100 million shares of common stock at $0.20 per share.

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The following table presents the results of this analysis:

Discount Rate	Present Value of Cash Flows[1] Varying from 30% POS POS: 24% -5%	30% 0%	37% +5%	Equity Value per Share Varying from 30% POS POS: 24% -5%	30% 0%	37% +5%
10.0%	$ 6.5	$ 16.1	$ 27.3	$ 0.04	$ 0.10	$ 0.16
12.5%	(0.1)	7.6	16.5	(0.00)	0.04	0.10
15.0%	(5.0)	1.1	8.3	(0.03)	0.01	0.05

(1) Dollars in millions.

Comparable Companies Analysis.

MTS reviewed and compared certain financial information for certain North American companies that are focused on central nervous system, or CNS, therapies. Although none of the selected companies is directly comparable to Neurogen, the companies included were chosen because they are publicly traded companies focused on CNS therapies that have operations that, for purposes of analysis, may be considered similar to certain operations of Neurogen. MTS organized the comparable companies into two categories: (i) North American companies focused on CNS therapies that are in the early stage of development and (ii) North American companies focused on CNS therapies that have publicly announced that they have retained strategic advisors. The following tables summarize the results of each of these analyses:

CNS Focused Companies Early Stage[1]

Company	Stock Price	Market Cap	Cash	Debt	Enterprise Value
Targacept	$ 12.80	$ 338.7	$ 73.1	$ 4.1	$ 269.7
Repligen	5.18	161.0	47.6	0.0	113.4
Transition Therapeutics	5.22	121.2	41.5	0.0	79.7
ICAgen	0.65	30.5	24.1	1.2	7.6
Cortex Pharmaceuticals	0.24	12.4	1.0	0.3	11.7
	Max	*$ 338.7*	*$ 73.1*	*$ 4.1*	*$ 269.7*
	Median	*$ 121.2*	*$ 41.5*	*$ 0.3*	*$ 79.7*
	Mean	*$ 132.8*	*$ 37.5*	*$ 1.1*	*$ 96.4*
	Min	*$ 12.4*	*$ 1.0*	*$ 0.0*	*$ 7.6*

(1) Dollars in millions, except stock price data.

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CNS Focused Companies With Retained Advisors[1]

Company	Stock Price	Market Cap	Cash	Debt	Enterprise Value
Insmed	$ 0.93	$ 116.2	$ 127.5	$ 1.7	$ (9.6)
Avigen[2]	1.18	31.8	42.5	0.0	(10.7)
Neurobiological Technologies	0.79	21.3	21.6	0.0	(0.3)
EPIX Pharmaceuticals[3]	0.12	8.6	14.8	0.0	(6.2)
TorreyPines Therapeutics[4]	0.31	5.0	6.6	3.2	1.5
	Max	*$ 116.2*	*$ 127.5*	*$ 3.2*	*$ 1.5*
	Median	*$ 21.3*	*$ 21.6*	*$ 0.0*	*$ (6.2)*
	Mean	*$ 36.6*	*$ 42.6*	*$ 1.0*	*$ (5.1)*
	Min	*$ 5.0*	*$ 6.6*	*$ 0.0*	*$ (10.7)*

(1) Dollars in millions, except stock price data.

(2) Market data for Avigen is based on March 26, 2009, one day before announcement of liquidation.

(3) Market data for EPIX is based on July 17, 2009, one day before announcement of liquidation. Pro forma for sale of MS-325 U.S., Canadian and Australian rights and exchange offer of 3.00% convertible debt.

(4) Market data for TorryPines is based on May 28, 2009, one day before announcement of liquidation.

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Comparable Acquisitions Analysis.

MTS analyzed certain information relating to certain transactions involving early clinical stage companies. While none of the selected transactions is directly comparable to the merger, the companies that participated in the selected transactions are companies that, for purposes of analysis, may be considered similar to Neurogen s operations, market size or product profile. For each of these transactions, MTS compared the one day premium, the total transaction value, and the value and percentage of the total transaction value of any contingent payments included in the transaction. The following table presents the results of this analysis:

Announced[1]	Target / Acquiror	1-Day Premium	Total Transaction Value[2]	Total	% Transaction Value
05/29/09	CuraGen / Celldex Therapeutics	32%	$ 29	n/a	n/a
03/03/09	ViroChem Pharma / Vertex	Private	377[3]	n/a	n/a
02/27/09	Arana Therapeutics / Cephalon	69%	96	n/a	n/a
12/18/08	Thiakis Limited / Wyeth	Private	150	$ 120	80%
10/27/08	Avalon Pharmaceuticals / Clinical Data	291%	11	3	22%
09/24/08	Pharmacopeia / Ligand Pharmaceuticals	52%	41	15	57%
08/04/08	Curacyte Discovery / Medicines Co.	Private	39	16	42%
06/04/08	Protez Pharmaceuticals / Novartis AG	Private	400[3]	300	75%
05/21/08	U3 Pharma AG / Daiichi Sankyo Company	Private	235	n/a	n/a
04/15/08	Piramed Limited / Roche	Private	175	15	9%
04/11/08	Sirtris Pharmaceuticals / GSK	68%	609[3]	n/a	n/a
02/09/08	Hunter-Fleming Ltd. / Newron Pharmaceuticals	Private	34	26	77%
12/05/07	Ester Neurosciences Ltd. / Amarin Corporation plc	Private	32	17	53%
	Max	*291%*	*$ 235*	*$ 300*	*80%*
	Median	*68%*	*40*	*17*	*55%*
	Mean	*102%*	*84*	*64*	*52%*

(1) Certain data in this table is based on company filings. Dollars in millions, except per share data.

(2) Total transaction value includes contingent payments.

(3) Excluded from summary calculation.

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Liquidation Analysis.

MTS performed a liquidation analysis of Neurogen based on estimates from Neurogen s management. For purposes of this analysis, MTS assumed that following stockholder approval Neurogen would commence liquidation on or about November 30, 2009 and relied on Neurogen management s estimates of the net cash that would be available on such date after the disposal of certain assets and the satisfaction of certain liabilities. MTS also applied a discount rate of 11.0%. The liquidation analysis resulted in an estimated equity value of $0.15 per share.

Ligand Valuation Analysis. MTS analyzed the valuation of Ligand using three different methodologies: discounted cash flow analysis (management case); discounted cash flow analysis (Wall Street case); and comparable companies analysis. The results of each of these analyses are summarized below.

Discounted Cash Flow Analysis (Management Case).

MTS performed a discounted cash flow analysis on Ligand based on Ligand management forecasts through 2018 using discount rates of 10.0%, 12.5% and 15.0%. The analysis did not involve any probability adjustments because Ligand s royalty revenues have limited remaining clinical risk according to Ligand management. The analysis was based on the following key assumptions: (i) the terminal value was estimated using a 0% to 2% perpetuity growth rate because of declining research and development, or R&D, spending in the outer years of the analysis; and (ii) a tax rate of 35%. The following tables present the results of this analysis:

Discount	Present Value of Cash Flows	Present Value of Terminal Value[1] Assuming Terminal Growth Rate of:			Implied Enterprise Value Assuming Terminal Growth Rate of:		
Rate	2009-2018	0.0%	1.0%	2.0%	0.0%	1.0%	2.0%
10.0%	$ 772	$ 867	$ 973	$ 1,106	$ 1,640	$ 1,746	$ 1,878
12.5%	655	490	538	595	1,145	1,193	1,250
15.0%	558	290	314	342	849	872	900

Discount	Plus Net	Implied Equity Value[1] Assuming Terminal Growth Rate of:			Implied Equity Value per Share Assuming Terminal Growth Rate of:		
Rate	Cash	0.0%	1.0%	2.0%	0.0%	1.0%	2.0%
10.0%	$ 55	$ 1,695	$ 1,801	$ 1,933	$ 14.64	$ 15.54	$ 16.67
12.5%	55	1,200	1,248	1,305	10.43	10.83	11.32
15.0%	55	904	928	955	7.90	8.10	8.34

(1) Dollars in millions.

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Discounted Cash flow analysis (Wall Street case).

MTS performed a discounted cash flow analysis on Ligand based on Wall Street estimates through 2016 using discount rates of 10.0%, 12.5% and 15.0%. Like the management case analysis described above, this analysis did not involve any probability adjustments because Ligand s royalty revenues have limited remaining clinical risk according to Ligand management. The analysis was based on the following key assumptions: (i) the terminal value was estimated using a 2% to 4% perpetuity growth rate because of increasing R&D spending in the outer years of the analysis; and (ii) a tax rate of 35%. The following tables present the results of this analysis:

Discount Rate	Present Value of Cash Flows 2009-2016	Present Value of Terminal Value(1) Assuming Terminal Growth Rate of: 2.0%	3.0%	4.0%	Implied Enterprise Value Assuming Terminal Growth Rate of: 2.0%	3.0%	4.0%
10.0%	$ 65	$ 294	$ 339	$ 399	$ 358	$ 404	$ 464
12.5%	52	158	176	199	210	228	251
15.0%	41	91	99	109	132	141	151

Discount Rate	Plus Net Cash	Implied Equity Value(1) Assuming Terminal Growth Rate of: 2.0%	3.0%	4.0%	Implied Equity Value per Share Assuming Terminal Growth Rate of: 2.0%	3.0%	4.0%
10.0%	$ 55	$ 414	$ 459	$ 519	$ 3.66	$ 4.06	$ 4.59
12.5%	55	265	283	306	2.35	2.51	2.71
15.0%	55	187	196	206	1.66	1.73	1.82

(1) Dollars in millions.

Comparable Companies Analysis.

MTS reviewed and compared certain financial information for certain companies that are focused on development in diversified therapeutic areas. While none of the selected companies is directly comparable to Ligand, the companies included were chosen because they are publicly traded companies that have operations that, for purposes of analysis, may be considered similar to certain operations of Ligand. The following table summarizes the results of this analysis:

Company(1)	Stock Price	Market Cap	Cash	Debt	Enterprise Value(2)
InCyte	$ 6.09	$ 592.8	$ 140.5	$ 401.2	$ 853.5
Ardea	19.75	390.2	70.1	7.6	327.7
ImmunoGen	7.21	373.8	71.1	0.0	302.7
Arena	4.28	342.5	39.6	86.3	389.3
Micromet	5.94	323.0	49.2	2.5	276.2
Rigel	7.89	290.1	79.9	2.6	212.8
Sangamo	5.50	226.0	52.3	0.0	173.8
QLT	3.89	212.5	134.9	0.0	77.5
NPS	4.36	207.1	83.7	328.2	451.7
Array	3.96	192.7	58.9	81.0	214.8
Avanir	2.15	172.2	26.1	0.0	146.1
Lexicon Pharma	1.32	181.3	87.0	67.0	165.3
Repligen	5.18	161.0	47.6	0.0	113.4
ARYx	3.47	99.7	22.2	14.6	92.0
	Max	*$ 592.8*	*$ 140.5*	*$ 401.2*	*$ 853.5*

Median	*$ 219.2*	*$ 64.5*	*$ 5.1*	*$ 213.8*
Mean	*$ 268.9*	*$ 68.8*	*$ 70.8*	*$ 271.2*
Min	*$ 99.7*	*$ 22.2*	*$ 0.0*	*$ 77.5*

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(1) Certain data in this table is based on company filings as of August 19, 2009. Dollars in millions, except per share data.

(2) Enterprise value is defined as market cap plus debt less cash.

General. MTS performed a variety of financial and comparable analyses for purposes of rendering its opinion. The preparation of a financial opinion is a complex process and is not susceptible to partial analysis or summary description. In arriving at its opinion, MTS considered the results of all of its analyses as a whole and did not attribute any particular weight to any analysis or factor considered. Furthermore, MTS believes that the summary provided and the analyses described above must be considered as a whole and that selecting any portion of the analyses, without considering all of them, would create an incomplete view of the process underlying MTS analysis and opinion. As a result, the ranges of valuations resulting from any particular analysis or combination of analyses described above should not be taken to be the view of MTS with respect to the actual value of Neurogen or Ligand or their respective common stock.

In performing its analyses, MTS made numerous assumptions with respect to industry performance, general business, regulatory and economic conditions and other matters, all of which are beyond MTS control and many of which are beyond the control of Neurogen or Ligand. Any estimates used by MTS in its analysis are not necessarily indicative of future results or actual values, which may be significantly more or less favorable than those suggested by such estimates.

The opinion of MTS was one of the many factors taken into consideration by the Neurogen board of directors in making its determination to approve the proposed merger. Consequently, the analyses as described above should not be viewed as determinative of the opinion of Neurogen s board of directors with respect to the merger consideration or of whether Neurogen s board of directors would have been willing to agree to a different merger consideration. The merger consideration was determined through arm s-length negotiations between Neurogen and Ligand and was approved by Neurogen s board of directors. MTS Health Partners provided advice to Neurogen during these negotiations. MTS and MTS Health Partners did not, however, recommend any specific amount of consideration to Neurogen or its board of directors or that any specific amount of consideration constituted the only appropriate consideration for the merger.

Neurogen selected MTS Health Partners because MTS Health Partners is nationally recognized in the healthcare industry as having investment banking professionals with significant experience in healthcare investment banking and merger and acquisition, or M&A, transactions, including transactions similar to the merger. Pursuant to an engagement letter agreement dated as of September 8, 2008 between Neurogen and MTS Health Partners, Neurogen engaged MTS Health Partners to act as its financial advisor in connection with a potential business combination transaction. In addition, MTS Health Partners agreed to cause MTS to provide, at no additional cost, an opinion as to the fairness from a financial point of view of any consideration to be paid in any such transaction. As compensation for MTS Health Partners financial advisory services, Neurogen paid a retainer of $75,000 and, upon the completion of the merger, will pay a M&A success fee of $700,000. The initial retainer will be credited against the M&A success fee. Neurogen also agreed to reimburse MTS Health Partners for its reasonable out-of-pocket expenses, including attorney s fees and expenses, and to indemnify MTS Health Partners against various liabilities. As permitted by the terms of the engagement letter and pursuant to MTS Health Partners internal policies, MTS, rather than MTS Health Partners, delivered the fairness opinion due to the nature of the merger consideration.

MTS and its affiliates, as part of their investment banking business, are continually engaged in performing financial analyses with respect to healthcare businesses and their capitalization in connection with mergers and acquisitions, competitive biddings, private placements and other transactions as well as for corporate and other purposes. As noted above, MTS acted as financial advisor to Neurogen in connection with, and participated in certain of the negotiations leading to, the merger agreement. In addition, MTS has provided investment banking services to Neurogen from time to time. MTS may also provide investment banking services to the combined

companies in the future. In connection with the above-described investment banking services, MTS has received compensation, and may receive compensation in the future.

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. There were several important factors that contributed to the Ligand board of directors approval, including the following:

Pharmaceutical Partnerships. Ligand gains a fully funded partnership with Merck for Vanilloid Receptor Subtype 1, or VR1, antagonists. Neurogen entered into an agreement with Merck in 2003 to develop VR1 antagonists for the treatment of acute and chronic pain. Merck is pursuing the lead VR1 antagonist, MK 2295, and a backup compound in preclinical testing to assess the suitability of these compounds for possible future clinical development. Under the terms of the license agreement, Merck will fund 100% of the program costs and will make milestone and royalty payments upon the achievement of certain development events and commercialization of any applicable VR1 compounds covered under the agreement.

Pipeline. Neurogen s product candidate pipeline may provide Ligand s stockholders with additional development opportunities, know-how and intellectual property which all may support its goal of entering into new license agreements.

H3 Antagonist Program. Neurogen has developed a significant intellectual property estate and identified multiple clinical candidates for blockade of the histamine H3 receptor. The histamine H3 receptor is a target of significant interest for the potential treatment of sleep disorders (e.g. narcolepsy), attention deficit hyperactivity disorder, or ADHD, and cognitive deficits (e.g. schizophrenia and Alzheimer s). Neurogen s lead and backup compounds are potent, inverse agonists of the H3 receptor that demonstrate efficacy in animal models after oral dosing.

Oral Erythropoietin (EPO) Research Program. Ligand has been conducting internal research on orally active erythropoietin agonists and has made significant progress toward declaring a clinical candidate. Neurogen has conducted its own drug discovery efforts in the area and provides novel chemical scaffolds and additional know-how that could further enhance Ligand s oral EPO program. Neurogen s program also includes technology for the pursuit of granulocyte cell stimulating factor (G-CSF) mimetics for neutropenia.

Promising Drug Discovery Platform. The drug discovery platform and proprietary technologies of the combined company are highly complementary and are capable of potentially generating unique and valuable drug candidates. Neurogen has a drug discovery technology based on AIDD (Accelerated Intelligent Drug Discovery) virtual library modeling of large, dynamic compound sets to efficiently prioritize chemicals for synthesis and biological assay tests. The AIDD technology has resulted in the discovery of numerous clinical candidates. The technology fits with Ligand s ultra-high throughput biological assays and 5 million-plus ECLiPS compound collection acquired in the Pharmacopeia transaction.

Financial Implications. The combination of the two companies should allow the combined company to operate with a stronger cash position, cut costs by eliminating redundant public company expenses and further reduce expenses by setting funding priorities on the programs considered to possess the highest potential financial return.

Cash. After taking into account transaction fees and repayment of debt, Ligand will gain an estimated $7 million in cash from this transaction. In addition, Ligand projects that its cost to operate Neurogen will be negligible going forward as Neurogen s facilities are to be sold and Neurogen s operations will be shut down. Any investment in Neurogen s research programs are currently projected to be assumed within Ligand s operating forecast.

Net Operating Loss Carryforwards. Neurogen has more than $319 million in net operating loss carryforwards, or NOLs. While there will be significant limitation to the utilization of the NOLs over time given the tax laws governing use of acquired NOLs, the NOLs may be usable to some extent by Ligand, should the combined company become profitable.

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 of this proxy statement/prospectus entitled Risk Factors.

Interests of Neurogen s Executive Officers and Directors in the Merger

In considering the recommendation of Neurogen s board of directors that you vote to adopt the merger agreement and approve the merger, 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. Neurogen s board of directors was aware of and considered these interests, among other matters, in reaching its determination that the merger agreement and the transactions contemplated thereby, including the merger, are advisable for, and in the best interests of, Neurogen and its stockholders, in approving the merger agreement and the transactions contemplated thereby, including the merger, and in making its recommendation that Neurogen s stockholders vote in favor of the adoption of the merger agreement. These interests include the following:

- upon the occurrence of certain types of termination of employment after the merger, certain executive officers would be entitled to receive severance benefits, including certain lump sum payments, continuation of medical coverage, and immediate vesting of options or other incentive securities as more fully described below;

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

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

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

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

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

Certain directors and Neurogen s president and chief executive officer, Stephen R. Davis, have entered into voting agreement with Ligand which require them to vote in favor of the merger agreement and the merger. Please see Certain Terms of the Merger Agreement-Voting Agreements beginning on page 89 of this proxy statement/prospectus.

The merger agreement does not require that Mr. Davis be given the 30 days advance notice of termination of employment, required under his employment agreement, until immediately before the effective time of the merger. This assures Mr. Davis of 30 days of continuing employment (and of salary and benefits), pursuant to the terms of his employment agreement, after the merger.

If the Aplindore program is not terminated or sold by Neurogen before the effective time of the merger or all of Neurogen s real estate is not sold by Neurogen before the effective time of the merger, the merger agreement requires Ligand to use commercially reasonable efforts to negotiate and agree to terms with as many of Stephen Davis, Thomas Pitler, Kenneth Sprenger and George Maynard (all of whom are executive officers of Neurogen) as possible to engage them as consultants for the purpose of assisting Ligand s efforts to sell the Aplindore program and the real estate.

Upon completion of the merger, based on the number of shares of common stock of Ligand and Neurogen outstanding on the record date, assuming that all in-the-money Neurogen stock options are exercised, but without taking into account stock options or warrants of Ligand, it is anticipated that the directors and executive officers of Neurogen collectively will beneficially own approximately [__]% of the then outstanding shares of Ligand common stock, depending on the market price of Ligand s common stock during the period before the special meeting and Neurogen s actual net cash.

Certain Potential Severance Benefits. Neurogen is party to employment agreements, which include severance benefits, with Stephen R. Davis, Dr. Thomas A. Pitler, Dr. Kenneth J. Sprenger and Dr. George Maynard. These agreements provide severance payments and benefits to Neurogen s named executive officers in the event of termination of employment (a) by the executive for good reason, (b) by Neurogen without cause, (c) following a change of control under certain circumstances, (d) upon death or disability and (e) in the event of non-renewal of the agreements.

The employment agreements provide that if the executive is terminated without cause, or if the executive terminates his employment for good reason, he will be entitled to: (i) a lump sum payment in an amount equal to his then current base salary, (ii) continuation of the health and welfare benefits for the executive and his family (or the economic equivalent thereof) for one year after the termination and (iii) the right to exercise immediately any stock options and to freely trade any restricted stock that, but for such termination, would have become exercisable or tradable, as the case may be, within one year of the date of such termination.

In addition, the employment agreements provide that if the executive is terminated without cause or terminates his employment for good reason and such termination is in connection with a change of control (including without limitation any termination within two years of a change of control), then he shall also be entitled to a lump sum payment in an amount equal to the greater of: (i) his then targeted annual bonus or (ii) his annual bonus immediately prior to the change of control. Target annual bonuses as a percentage of annual base salary for the executives are: Mr. Davis, 50%; Dr. Pitler, 25%; Dr. Sprenger, 25%; Dr. Maynard, 20%.

Assuming that the merger occurs, and each executive officer s employment is terminated, on or before December 31, 2009, the approximate value of the severance payments they would be entitled to receive before applicable withholding taxes is set forth in the table below.

Executive	Number of Months of Base Salary	Number of Months of Benefit Continuation	Percentage of Target Bonus for Year of Termination	Total Severance Payments (excluding benefit continuation)
Stephen R. Davis	12	12	50% of base salary	$ 637,500
Tom A. Pitler	12	12	25% of base salary	350,000
Kenneth J. Sprenger	12	12	25% of base salary	375,000
George Maynard	9	9	20% of base salary	195,630
Total				$ 1,558,130

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

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

In addition, for a period of six years following the effective time of the merger, Ligand will cause the surviving entity to maintain in effect the current level and similar scope of directors and officers liability insurance coverage, provided that the surviving entity shall not be obligated to expend in any one year an amount in excess of 100% of the annual premium currently payable by Neurogen. If Neurogen purchases prepaid insurance for a price in excess of this 100% threshold, the excess shall be treated as a reduction of Neurogen s net cash for purposes of calculating the number of Ligand shares to be issued in the merger.

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

Regulatory Filings and Approvals Required to Complete the Merger

Neither Ligand nor 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.

Listing of Shares of Ligand Common Stock Issued in Merger on Nasdaq

Ligand will use its reasonable best efforts to cause such shares to be approved for listing on Nasdaq, before the effective time of the merger, subject to official notice of issuance. The CVRs will not be marketable or listed on any securities exchange and will be subject to general transfer restrictions with limited exceptions.

Delisting and Deregistration of Neurogen Common Stock

If the merger is completed, Neurogen common stock will be delisted from Nasdaq and deregistered under the Exchange Act. In addition, Neurogen will cease to be a reporting company under the Exchange Act.

Sales of Shares of Ligand Common Stock Received in Merger

The shares of Ligand common stock to be issued in connection with the merger will be registered under the Securities Act and will be freely transferable, except for shares of Ligand common stock issued to any person who is deemed to be an affiliate of Ligand upon completion of the merger. Persons who may be deemed to be

affiliates of Ligand upon completion of the merger include individuals or entities that control, are controlled by, or are under common control with Ligand. Affiliates of Neurogen may no longer be subject to resale restrictions, provided they are not deemed affiliates of the combined entity.

Persons who may be deemed to be affiliates of Ligand upon completion of the merger may not sell any of the shares of Ligand common stock received by them in connection with the merger except pursuant to:

- an effective registration statement under the Securities Act covering the resale of those shares; or
- any other applicable exemption under the Securities Act.

Ligand s registration statement on Form S-4, of which this proxy statement/prospectus forms a part, does not cover the resale of shares of Ligand common stock to be received in connection with the merger by persons who may be deemed to be affiliates of Ligand upon completion of the merger.

Material United States Federal Income Tax Consequences of the Merger

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

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

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

If a partnership holds Neurogen common stock, the tax treatment of a partner in such partnership will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a

partnership holding Neurogen common stock, you should consult your tax advisor regarding the tax considerations of the merger.

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

General

The receipt of the merger consideration by a United States holder in exchange for Neurogen shares 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 in part on the United States federal income tax treatment of the CVRs, with respect to which there is substantial uncertainty.

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

Treatment of Consideration Received Upon Consummation of the Merger

Treatment as Open Transaction. The receipt of the CVRs would generally be treated as an open transaction if the value of the CVRs cannot be reasonably ascertained. If the receipt of the merger consideration is treated as an open transaction for United States federal income tax purposes, a United States holder will generally recognize capital gain for United States federal income tax purposes upon consummation of the merger if and to the extent (x) the sum of (i) the amount of cash, if any, received, (ii) the fair market value of Ligand common stock received and (iii) the fair market value of any other property received (other than CVRs) exceeds (y) such United States holder s adjusted tax basis in the Neurogen common stock surrendered pursuant the merger.

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

Subject to the Section 483 Rules discussed below, if the transaction is open for Unites States federal income tax purposes, a United States holder who does not receive cumulative payments pursuant to the merger

with a fair market value at least equal to such United States holder s adjusted tax basis in the Neurogen common stock surrendered pursuant the merger, will recognize a capital loss in the year that the United States holder s right to receive further payments under the CVRs terminates.

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

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

Basis and Holding Period. If the transaction is closed for United States federal income tax purposes, a United States holder s initial tax basis in the CVRs will equal the fair market value of the CVRs on the date of the consummation of the merger. The holding period of the CVRs will begin on the day following the date of the consummation of the merger. In either case (if the transaction is closed or open for United States federal income tax purposes) a United States holder s initial tax basis in the Ligand shares will equal the fair market value of the Ligand shares on the date of the consummation of the merger, and the holding period of the Ligand shares will begin on the day following the date of the consummation of the merger.

Potential Alternative Characterization. If the Aplindore program and/or certain real estate owned by Neurogen is sold on or prior to the effective time of the merger, holders of Neurogen common stock will receive cash and/or third party stock constituting the consideration received by Neurogen on the dispositions of such asset or assets. Any such cash or third party stock received at the effective time of the merger could be treated as a distribution received on the holder s Neurogen common stock. If any cash and/or third party stock is treated as a distribution with respect to Neurogen common stock, the cash and/or stock would be treated as a dividend to the extent of Neurogen s current or accumulated earnings and profits (determined under U.S. tax rules), with the excess treated as a non-taxable return of the United States holder s tax basis in their Neurogen common stock and as gain from the sale of Neurogen common stock if those amounts exceed tax basis. Neurogen does not expect that it will have any current or accumulated earnings and profits, with the result that if any cash and/or stock received by a United States holder at the effective time as a result of the sale of the Aplindore program and/or the identified real estate is treated as a distribution with respect to the United States holder s Neurogen common stock, such amounts will reduce the United States holder s tax basis in their Neurogen common stock, resulting in more gain or less loss pursuant to the disposition of the Neurogen common stock in the merger. Any cash or third party stock that a United States holder is treated as receiving as a distribution on their Neurogen common stock will not be taken into account in determining the United States holder s amount realized on the disposition of their Neurogen common stock in the merger. You should consult your own tax advisor to determine the tax consequences to you if any cash or property received is treated as a dividend for U.S. federal income tax purposes.

Future Payments on the CVRs

Treatment as Open Transaction. If the transaction is treated as an open transaction, a payment pursuant to a CVR to a United States holder of a CVR should be treated as a payment under a contract for the sale or exchange of Neurogen common stock to which Section 483 of the Code applies (the Section 483 Rules). Under

the Section 483 Rules, a portion of the payments made pursuant to a CVR will be treated as interest, which will be ordinary income to the United States holder of a CVR. The interest amount will equal the excess of the amount received over its present value at the consummation of the merger, calculated using the applicable federal rate as the discount rate. The United States holder of a CVR must include in its taxable income interest pursuant to the Section 483 Rules using such United States holder s regular method of accounting. The portion of the payment pursuant to a CVR that is not treated as interest under the Section 483 Rules will generally be treated as a payment with respect to the sale of Neurogen common stock, as discussed above.

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

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

Information Reporting and Backup Withholding

Under United States federal income tax laws, the exchange agent appointed by Ligand will generally be required to report to a United States holder and to the IRS any payments made to a United States holder in exchange for Neurogen common stock in the merger, and may be required to backup withhold 28% of any such payment. In addition, payments pursuant to the CVRs may be subject to back-up withholding and information reporting. To avoid such backup withholding, a United States holder should provide the exchange agent or other applicable person a properly completed Form W-9 (or appropriate substitute form), signed under penalties of perjury, including such holder s current Taxpayer Identification Number, or TIN, and other certifications. If the United States holder does not provide the exchange agent with a TIN and other required certifications, the exchange agent will backup withhold 28% of payments made to the holder (unless the holder is an exempt recipient as described in the next sentence and demonstrates this fact).

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

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

Anticipated Accounting Treatment

In accordance with generally accepted accounting principles in the United States, Ligand will account for the merger under the acquisition method of accounting in accordance with Statement of Financial Accounting Standards No. 141 (revised 2007), Business Combinations. Under the acquisition method of accounting, the total estimated purchase price, calculated as described in Note 2 to the unaudited pro forma condensed combined financial statements included in this proxy statement/prospectus, is allocated to the net tangible and intangible assets of Neurogen based on their estimated fair values. Management has made a preliminary allocation of the estimated purchase price to the tangible and intangible assets acquired and liabilities assumed based on various

preliminary estimates. A final determination of these estimated fair values, which cannot be made before the completion of the merger, will be based on the actual net tangible and intangible assets of Neurogen that exist as of the date of completion of the merger, and upon the final purchase price.

Litigation Challenging the Merger

On August 31, 2009, Gabriel Guzman, one of Neurogen s stockholders, filed a putative class action complaint in the Connecticut Superior Court for the New Haven Judicial District, on behalf of the stockholders of Neurogen against each of the directors of Neurogen, Neurogen, Ligand and Merger Sub. The complaint generally alleges that the decision of the Neurogen board of directors to enter into the proposed transaction with Ligand on the terms contained in the merger agreement constitutes a breach of fiduciary duty and gives rise to other unspecified state law claims. The complaint also alleges that Ligand and Merger Sub aided and abetted the Neurogen board of directors breaches of their fiduciary duties. In addition, the complaint alleges that the named plaintiff will seek an order preliminarily and permanently enjoining the proposed transaction. Neurogen and Ligand believe that the allegations in the complaint are without merit and intend to vigorously defend against this action.

Appraisal Rights of Dissenting Neurogen Stockholders

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

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

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

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

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

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

- not vote its shares of common stock in favor of, or consent in writing to, the adoption of the merger agreement and the transactions contemplated thereby, including the merger.

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

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

A Neurogen stockholder of record who elects to demand appraisal of his or her shares must mail or deliver his or her written demand to: Neurogen Corporation, 45 NE Industrial Road, Branford, CT 06405, Attention: Corporate Secretary. The written demand for appraisal should specify the stockholder s name and mailing address, the number of shares owned, and that the stockholder is thereby demanding appraisal of his or her shares, and such written demand must be received by Neurogen before the special meeting.

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

adoption of the merger agreement and approval of the merger, a stockholder who votes by proxy and who wishes to exercise appraisal rights must vote against the merger agreement and approval of the merger, or abstain from voting on the merger agreement and approval of the merger.

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

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

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

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

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

Neurogen stockholders considering seeking appraisal should bear in mind that the fair value of their shares of common stock as determined under Section 262 could be more than, the same as, or less than the merger consideration they are entitled to receive pursuant to the merger agreement if they do not seek appraisal of their

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shares, and that opinions of investment banking firms as to the fairness from a financial point of view of the merger consideration payable in a merger are not opinions as to fair value under Section 262.

The cost of the appraisal proceeding (which does not include attorneys fees or the fees or expenses of experts) may be determined by the Delaware Court of Chancery and levied upon the parties as the Delaware Court of Chancery deems equitable in the circumstances. Upon application of a stockholder seeking appraisal rights, the Delaware Court of Chancery may order that all or a portion of the expenses incurred by such stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorneys fees and the fees and expenses of experts, be charged pro rata against the value of all shares entitled to appraisal. In the absence of such a determination of assessment, each party bears its own expenses.

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

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

CERTAIN TERMS OF THE MERGER AGREEMENT

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

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

The Merger

At the effective time of the merger, Ligand s wholly-owned subsidiary, Neon Signal, LLC, or Merger Sub, will be merged with and into Neurogen, with Neurogen continuing as the surviving corporation. Upon completion of the merger, the directors and officers of Neurogen will have resigned, and Ligand will appoint Ligand personnel as the directors and officers of the surviving corporation.

Effective Time of the Merger

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

Manner and Basis of Converting Shares

The merger agreement provides that, at the effective time of the merger, each share of Neurogen common stock then outstanding will automatically be converted into the right to receive:

- a portion of a share of Ligand common stock equal to the exchange ratio, with cash in lieu of any fractional share (after aggregating all fractional shares of Ligand common stock that otherwise would have been received), with the exchange ratio being determined as follows:

  - a decimal fraction (calculated to the nearest one-thousandth) the numerator of which is the quotient derived by dividing $11 million (plus the amount, if any, by which Neurogen s net cash amount calculated as of the third trading day preceding the date of the special meeting exceeds $7.9 million if the effective time occurs on any date during the month of September 2009, with a $5,000 decrease for each calendar day thereafter or minus the amount, if any, by which $7.9 million if the effective time occurs on any date during the month of September 2009, with a $5,000 decrease for each calendar day thereafter, exceeds Neurogen s net cash amount calculated as of the third trading day preceding the date of the special meeting) by the arithmetic average of the daily volume weighted average prices of Ligand common stock for each of the last 20 trading days preceding the third trading day preceding the date of the special meeting (provided this quotient shall not exceed 4.2 million), and the denominator of which is the number of issued and outstanding shares of Neurogen common stock immediately before the effective time of the merger;

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

- if Neurogen s program for the development of Aplindore for the treatment of RLS and Parkinson s disease is sold by Neurogen before the effective time of 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; and

- if the real properties currently owned by Neurogen are sold by Neurogen before the effective time of the merger, a pro-rata share of the pre-merger net cash proceeds from the sale; and

- one non-transferable Aplindore contingent value right, one H3 contingent value right, one Merck contingent value right and one real estate contingent value right, each of which entitles the holder to a proportionate share of various contingent payments, payable upon the achievement of certain milestones, which are referred to in this proxy statement/prospectus as the CVRs. See CVR Agreements for a description of the conditions to be satisfied for the contingent payments.

For purposes of the exchange ratio, the merger agreement defines Neurogen s net cash as an amount equal to (i) the sum of (A) all cash (including any payments received by Neurogen from the exercise by any non-employee director of Neurogen stock options, as contemplated by the Non-Employee Director Agreements or otherwise), cash equivalents, marketable securities and accounts receivable (net of accounts receivable reserves established in accordance with GAAP) held by Neurogen its subsidiaries (but excluding the Aplindore program consideration and the real estate consideration, if any, received by Neurogen before the Effective Time) and (B) in the event Neurogen purchases a tail prepaid D&O insurance policy, any amount (up to a maximum of $270,000) paid by Neurogen for such tail policy; minus (ii) the sum of (A) in the event Neurogen purchases a tail prepaid D&O insurance policy, any amount by which the cost of such tail policy exceeds $270,000 to the extent such excess has not been paid by Neurogen before the third trading day preceding the Neurogen special meeting of stockholders, (B) any amount payable by Neurogen for the out-of-pocket transaction fees and expenses of Neurogen to its legal and financial advisors and accountants in connection with the merger agreement and the merger-related transactions, (C) any amount payable by Neurogen for expenses incurred in connection with the preparation, filing, printing and mailing of this proxy statement/prospectus and the solicitation of proxies for use at the special meeting, (D) an expense reserve amount of up to $350,000 for post-closing Aplindore operations, (E) except as otherwise covered in item (F) below, all severance payments, stay bonuses and performance bonuses payable to all employees, consultants and directors of Neurogen and its subsidiaries assuming that the service relationship of all such employees, consultants and directors with Neurogen and its subsidiaries is terminated as of the closing date, even if such service relationship in fact does continue after the closing date, (F) all severance payments, stay bonuses and performance bonuses remaining payable at the closing date to all employees, consultants and directors of Neurogen and its subsidiaries whose service relationship with Neurogen and its subsidiaries is terminated on or before the closing date, (G) the salary, employer-tax and benefits cost of the continuation of employment of any Neurogen employees, as a result of the advance-notice requirements of their respective employment agreements, beyond the closing date until their actual termination date, if before the closing date Ligand requests Neurogen to terminate such employees, provided that the costs described in this item (G) shall only be deducted if at least 33 calendar days before the closing date Ligand requests Neurogen to terminate any such employee, (H) all amounts payable by Neurogen in order to repay in full the amounts outstanding under the construction loan made by Connecticut Innovations, Inc. on or around October 1999 and any and all loans secured by the Neurogen real estate and to discharge all other obligations of Neurogen or any Neurogen subsidiary thereunder, and (I) to the extent not included in any item, all accounts payable of Neurogen and its subsidiaries; provided that all such amounts shall be determined in a manner consistent with the manner in which such items were determined by Neurogen in the most recent balance sheet included in Neurogen s financial statements.

The stock consideration, the proceeds, if any, from the pre-merger sale of the Aplindore program and/or Neurogen s real estate and the contingent value rights are collectively referred to in this proxy statement/prospectus as the merger consideration.

No certificates or scrip representing fractional shares of Ligand common stock shall be issued as part of the stock consideration. Instead, the exchange agent appointed by Ligand shall determine the difference between the aggregate number of full shares of Ligand common stock delivered to the exchange agent by Ligand comprising the stock consideration and the aggregate number of full shares of Ligand common stock to be distributed to Neurogen stockholders. The exchange agent shall sell the excess shares at then prevailing prices on Nasdaq and pay such amounts to Neurogen stockholders otherwise entitled to a fractional share of Ligand common stock with respect to their fractional share interests. These payments are part of the merger consideration.

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

The merger consideration shall be adjusted to the extent appropriate to reflect the effect of any stock split, division or subdivision of shares, stock dividend, reverse stock split, consolidation of shares, reclassification, recapitalization or other similar transaction with respect to Neurogen common stock or Ligand common stock occurring or having a record date on or after the date of the merger agreement and before the effective time of the merger. No such event is expected to occur.

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

After the effective time of the merger, transfers of Neurogen common stock will not be registered on the stock transfer books of Neurogen, and each certificate that previously evidenced Neurogen common stock will be deemed to evidence the right to receive the merger consideration. No dividends or other distributions declared or made after the effective time of the merger with respect to Ligand common stock with a record date after the effective time of the merger shall be paid to the holder of any unsurrendered Neurogen common stock certificate with respect to the shares of Ligand common stock represented thereby, and no payment in respect of the merger consideration shall be made with respect to such shares of Neurogen common stock represented thereby, unless and until the holder of such Neurogen common stock certificate surrenders such Neurogen common stock certificate as provided in the merger agreement.

Neurogen Stock Options and Warrants

Stock Options

By operation of the Neurogen Corporation 1993 Omnibus Incentive Plan, the Neurogen Corporation 1993 Non-Employee Director Stock Option Program, the Neurogen Corporation 2000 Non-Employee Directors Stock Option Program, Neurogen s September 25, 2000 Special Committee Stock Option Grant and the Amended and Restated Neurogen Corporation 2001 Stock Option Plan, in each case, as amended from time to time, all outstanding options to purchase shares of Neurogen common stock from Neurogen, whether granted by Neurogen pursuant to its equity plans or otherwise, whether or not then vested, will become fully vested and exercisable on the closing date. Neurogen s board of directors, by operation of existing agreements, including the Non-Employee Director Agreements, or by resolution, will take all requisite actions such that immediately before the effective time of the merger (i) 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 the shares of Neurogen common stock in accordance with the applicable Neurogen equity plan, and (ii) all outstanding Neurogen options not exercised, other than any unexercised Neurogen options remaining outstanding under Neurogen s 1993 Omnibus Incentive Plan, shall at the effective time of the merger be terminated and canceled without any payment or liability on the part of the Neurogen. If any option remains outstanding under Neurogen s 1993 Omnibus Incentive Plan after the effective time of the merger and the holder thereof exercises

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

Warrants

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

Representations and Warranties

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

Neurogen s Interim Operations

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

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

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

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

- issue, sell, pledge, transfer, deliver, dispose of or encumber any shares of, or securities convertible or exchangeable for, or options or rights to acquire, any shares of its capital stock, voting securities, phantom stock, phantom stock rights, stock based performance units or other securities that derive their value by reference to such capital stock or voting securities, other than: (i) the issuance of shares of Neurogen common stock upon the exercise of Neurogen options and (ii) the grant of Neurogen options under its 2000 Non-Employee Directors Stock Option Program in the ordinary course of business consistent with past practice;

- transfer, lease or license to any third party, or subject to an encumbrance (except for permitted encumbrances), any assets of Neurogen or any subsidiary other than: (i) sales in the ordinary course of business; (ii) dispositions of obsolete assets; or (iii) the sale or disposition of the Aplindore program or the real properties owned by Neurogen in accordance with the merger agreement;

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

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

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

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

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

settle or compromise any claim (presented formally to a judicial or quasi-judicial governmental entity), lawsuit, court action, suit, arbitration or other judicial or administrative proceeding (whether or not commenced before the date of the merger agreement), other than settlements or compromises of claims, lawsuits, court actions, suits, arbitration or other judicial or administrative proceedings where the amount paid (after giving effect to insurance proceeds actually received) in settlement or compromise does not exceed Neurogen s reserves on its books therefor by more than $10,000, or for any claim, lawsuit, court action, suit, arbitration or other judicial or administrative proceeding for which Neurogen has not yet reserved, in an amount therefor that does not exceed $20,000;

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

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

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

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

adopt a plan of complete or partial liquidation or dissolution;

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

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

Ligand s Interim Operations

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

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

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

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

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

adopt a plan of complete or partial liquidation or dissolution;

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

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

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

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Covenants

Covenants of Neurogen

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

- use commercially reasonable efforts to consummate the sale of the Aplindore program and the real estate owned by it before the effective time of the merger, on such terms and conditions as determined in Neurogen s sole discretion;

- before the effective time of the merger, repay in full the amounts outstanding under the construction loan made by Connecticut Innovations, Inc. on or around October 1999 and any and all loans secured by Neurogen s real estate, and discharge all other obligations of Neurogen or any Neurogen subsidiary thereunder, if any, and obtain full releases of any property of Neurogen or any Neurogen subsidiary pledged as collateral thereunder;

- pay to Wyeth the $250,000 fee required under the Aplindore license agreement with Wyeth for 2009 at the time such payment is due unless Neurogen shall have timely terminated the license under such license agreement;

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

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

- before the effective time of the merger, take all such steps as may be required to cause any dispositions of Neurogen common stock (including derivative securities with respect to Neurogen common stock) resulting from the merger by each individual who is subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Neurogen to be exempt under Rule 16b-3 promulgated under the Exchange Act;

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

- provide the Chief Executive Officer of Neurogen with a notice of termination (as an employee) immediately before the effective time of the merger, with such termination to be effective 30 days thereafter;

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

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

if so requested by Ligand, request the consent of the counterparty to any Neurogen agreement to the consummation by Neurogen of the merger.

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Covenants of Ligand

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

- take all or any action required under any applicable federal or state securities laws in connection with the issuance of shares of Ligand common stock in the merger;
- promptly inform Neurogen if any event or circumstance relating to Ligand or any Ligand subsidiary, or their respective officers or directors, should be discovered by Ligand which should be set forth in an amendment or a supplement to the registration statement or the proxy statement;
- promptly prepare and submit to Nasdaq a listing application covering the shares of Ligand common stock to be issued in the merger and shall use its reasonable best efforts to cause such shares to be approved for listing on Nasdaq, subject to official notice of issuance, before the effective time of the merger;
- If the Aplindore program is not terminated or sold by Neurogen before the effective time of the merger or all of Neurogen s real estate is not sold by Neurogen before the effective time of the merger, Ligand shall engage in the efforts (in good faith and with commercial reasonableness) to sell each of the Aplindore program and the real estate in accordance with the Aplindore CVR agreement and the real estate CVR agreement, respectively, and in furtherance of such obligations, before the effective time, use commercially reasonable efforts to negotiate and agree to terms with as many of Stephen Davis, Thomas Pitler, Kenneth Sprenger and George Maynard as possible to engage them as consultants for the purpose;
- honor the terms of the employment agreements and the severance plan listed on the Neurogen disclosure letter; and
- honor in accordance with their terms the obligations of Neurogen to provide continued medical and dental coverage to employees under the terms of the employment agreements and the severance plan listed on the Neurogen disclosure letter, and as and to the extent required by applicable law, continue to provide COBRA continuation coverage to former employees of Neurogen.

Covenants of Ligand and Neurogen

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

- as promptly as practicable after the execution of the merger agreement prepare and file with the SEC a registration statement in connection with the issuance of the shares of Ligand common stock in the merger and a proxy statement to solicit adoption of the merger agreement by the stockholders of Neurogen, and use all reasonable efforts to have the registration statement declared effective under the Securities Act as promptly as practicable after such filing;
- promptly make and effect all registrations, filings and submissions required to be made or effected by it pursuant to the Exchange Act and other applicable legal requirements with respect to the transactions contemplated by the merger agreement and use its reasonable best efforts to cause to be taken, on a timely basis, all other actions necessary or appropriate for the purpose of consummating and effectuating the transactions contemplated by the merger agreement;

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

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

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

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

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

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

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

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

Indemnification; Directors and Officers Insurance

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

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

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In addition, for a period of six years following the effective time of the merger, Ligand will cause the surviving entity to maintain in effect the current level and similar scope of directors and officers liability insurance coverage, provided that the surviving entity shall not be obligated to expend in any one year an amount in excess of 100% of the annual premium currently payable by Neurogen.

Limitation on Neurogen s Ability to Consider Other Acquisition Proposals

Neurogen has agreed that it shall not, that it shall cause all of its subsidiaries not to and shall use its reasonable best efforts to cause Neurogen s and such subsidiaries directors, officers, employees, investment bankers, attorneys and other agents or representatives, subject to specified exceptions, directly or indirectly, not to:

- solicit, initiate, knowingly encourage or knowingly induce the making, submission or announcement of an acquisition proposal;
- furnish any non-public information relating to Neurogen in response to or in connection with an acquisition proposal;
- participate or engage in discussions or negotiations with respect to an acquisition proposal; or
- approve, endorse or recommend to the stockholders of Neurogen any acquisition proposal.

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

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

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

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

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

For purposes of the merger agreement, the term superior proposal means any unsolicited, bona fide written offer made by a third party unaffiliated with Neurogen to directly or indirectly acquire (by way of merger, tender or exchange offer or otherwise) greater than 95% of Neurogen s assets (other than any such offer relating only to the Aplindore program and/or the Neurogen real estate and/or the proceeds of the pre-closing date sale thereof) or greater than 95% of the outstanding Neurogen common stock (other than Neurogen common stock already held by such third party) that the Neurogen board of directors shall have determined in good faith (after consultation with Neurogen s outside legal counsel and financial advisor, and after taking into account, among other things, the financial, legal and regulatory aspects of such offer (including any financing required and the availability thereof), as well as any revisions to the terms of the merger agreement proposed by Ligand, is more favorable to the stockholders of Neurogen than the terms of the merger (taking into account any revisions to the terms of the merger agreement proposed by Ligand) and is reasonably capable of being consummated on the terms proposed.

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

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

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

(i) An acquisition proposal that constitutes a superior proposal has been made and not withdrawn, (ii) Neurogen s board of directors determines in good faith that the failure to effect a change in recommendation in light of such superior proposal is inconsistent with its fiduciary obligations to the Neurogen stockholders under applicable law, (iii) Neurogen shall have given Ligand at least five days prior written notice advising Ligand that Neurogen s board of directors has received a superior proposal, specifying the material terms and conditions of such superior proposal, including a copy of such superior proposal and identifying the party making such superior proposal and stating that it intends to modify or withdraw its recommendation that Neurogen stockholders adopt the merger agreement, (iv) during the five day period following Ligand s receipt of a notice of recommendation

change, Neurogen shall have given Ligand the opportunity to meet with Neurogen, and at Ligand s request, shall have negotiated in good faith regarding the terms of possible revisions to the terms of the merger agreement and (v) Ligand shall not, within five days following Ligand s receipt of a notice of recommendation change, have made an offer that the Neurogen board of directors determines in good faith (after consultation with its outside legal counsel and financial advisor) to be at least as favorable to the stockholders of Neurogen as such superior proposal; or

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

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

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

Conditions to the Merger

Conditions to the Obligations of Each Party

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

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

the merger agreement shall have been adopted by Neurogen s stockholders;

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

the shares of Ligand common stock issuable pursuant to the merger shall have been approved for listing on Nasdaq, subject only to official notice of issuance.

Additional Conditions to the Obligations of Ligand and Merger Sub

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

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

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

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

no more than 6,800,000 shares of Neurogen common stock shall have demanded or be eligible to demand appraisal pursuant to Section 262 of the Delaware General Corporation Law;

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

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

Additional Conditions to the Obligations of Neurogen

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

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

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

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

As used with respect to Neurogen in the merger agreement, material adverse effect means any fact, circumstance, event, change or occurrence that, individually or in the aggregate with all other facts,

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circumstances, events, changes or occurrences, has or would reasonably be expected to have a material adverse effect on the results of operations or financial condition of Neurogen and its subsidiaries, taken as a whole, other than changes, subject to certain exceptions, events, occurrences or effects arising out of, resulting from or attributable to:

- changes in conditions in the United States or global economy or capital or financial markets generally, including changes in interest or exchange rates;
- conditions (or changes therein) in any industry or industries in which Neurogen and its subsidiaries operate;
- any change in law or GAAP or interpretation of any law or GAAP;
- the negotiation, execution, announcement or performance of the merger agreement or the consummation of the merger, including the impact thereof on relationships, contractual or otherwise, with customers, suppliers, distributors, partners, collaborators or employees;
- acts of war, sabotage or terrorism, or any escalation or worsening of any such acts of war, sabotage or terrorism threatened or underway as of the date of the merger agreement;
- storms, earthquakes or other natural disasters;
- any action taken by Neurogen or any Neurogen subsidiary as contemplated or permitted by the merger agreement or with Ligand s consent;
- the initiation of any litigation by any stockholder of Neurogen relating to the merger agreement or the merger;
- any decline in the market price, or change in trading volume, of the capital stock of Neurogen or any failure of Neurogen to meet revenue or earnings projections, either published by Neurogen or any third party (provided that this exception shall not prevent or otherwise affect a determination that any changes, state of facts, circumstances, events or effects underlying such a change has resulted in, or contributed to, a material adverse effect on Neurogen);
- any adverse changes, developments, circumstances, events or occurrences relating to Neurogen s ongoing research programs to the extent resulting from an action by Ligand or any of its affiliates;
- the determination by, or the delay of a determination by, the FDA, or any panel or advisory body empowered or appointed thereby, with respect to the approval, non-approval or disapproval of any products similar to or competitive with Neurogen s product candidates;
- the results of any clinical trial of one or more products or product candidates of any person other than Neurogen;

- the entry or threatened entry into the market of a generic version of one or more product candidates of Neurogen; or

- the sale of the Aplindore program or Neurogen s real estate in accordance with the merger agreement, regardless of the price obtained therefor.

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

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

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

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- any change in law or GAAP or interpretation of any law or GAAP;
- acts of war, sabotage or terrorism, or any escalation or worsening of any such acts of war, sabotage or terrorism threatened or underway as of the date of the merger agreement;
- storms, earthquakes or other natural disasters;
- the initiation of any litigation by any stockholder of Ligand relating to the merger agreement or the merger;
- any decline in the market price, or change in trading volume, of the capital stock of Ligand or any failure of Ligand to meet revenue or earnings projections, either published by Ligand or any third party (provided that this exception shall not prevent or otherwise affect a determination that any changes, state of facts, circumstances, events or effects underlying such a change has resulted in, or contributed to, a material adverse effect on Ligand);
- the negotiation, execution, announcement or performance of the merger agreement or the consummation of the transactions contemplated thereby, including the impact thereof on relationships, contractual or otherwise, with customers, suppliers, distributors, partners, collaborators or employees;
- any action taken by Ligand or any of its subsidiaries as contemplated or permitted by the merger agreement or with Neurogen s consent;
- the determination by, or the delay of a determination by, the FDA, or any panel or advisory body empowered or appointed thereby, with respect to the approval, non-approval or disapproval of any products similar to or competitive with Ligand s product candidates;
- the results of any clinical trial of one or more products or product candidates of any party other than Ligand; or
- the entry or threatened entry into the market of a generic version of one or more product candidates of Ligand.

Termination of the Merger Agreement

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

- the Neurogen stockholder approval shall not have been obtained by reason of the failure to obtain the required vote at the special meeting or at any adjournment thereof;
- the effective time of the merger shall not have occurred by November 30, 2009, or the outside date (provided that if the registration statement shall not have been declared effective by the SEC on or before October 23, 2009, then for each day after October 23, 2009 that the SEC has not declared the registration statement to be effective, the outside date shall automatically be extended by one day until such date as the SEC declares the registration statement to be effective, but in no event later than December 15, 2009), provided that the right to so terminate the merger agreement shall not be available to any party where the failure of such party or any affiliate or representative of such party to fulfill any obligation under the merger agreement or any voting agreement has resulted in the

failure of the effective time to have occurred on or before the outside date;

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

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

- if the Neurogen board of directors makes a change in its recommendation that Neurogen stockholders vote in favor of adoption of the merger agreement, provided such termination occurs within five business days thereof; or

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

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

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

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

- at any time at least three business days before the erstwhile closing date if the result that would be obtained by multiplying (A) the sum of (x) the total number of shares of Ligand common stock issuable pursuant to the merger agreement, after giving effect to the application of the 4.2 million maximum amount of shares and assuming that there are no dissenting shares, plus (y) the aggregated fractional shares, 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 Neurogen s actual net cash amount, unless on the business day next following the day on which Ligand receives actual notice in writing from Neurogen of termination, Ligand agrees to irrevocably waive in full the application of the 4.2 million maximum share amount, in which case the termination shall be nullified.

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

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Termination Fee

Neurogen has agreed pay a $475,000 termination fee to Ligand if the Neurogen board of directors authorizes Neurogen to accept (or to enter into a written agreement for a transaction constituting) a superior proposal.

Neurogen has also agreed to 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 shall not have been obtained by reason of the failure to obtain the required vote at the special meeting or at any adjournment thereof, (ii) Ligand or Neurogen terminates the merger agreement as a result of the merger not being consummated by the November 30, 2009 outside date, as it may be extended 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 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 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.

Neurogen has agreed to pay a $225,000 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 share amount maximum.

Fees and Expenses

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

Amendment

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

CVR Agreements

In connection with the closing of the merger, Ligand, Neurogen and a rights agent to be determined will enter into separate contingent value rights agreements relating to (i) Neurogen s Aplindore program, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex B*, (ii) Neurogen s H3 antagonist program, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex C*, (iii) Neurogen s vanilloid receptor subtype 1, or VR1, program, substantially in the form of the contingent value rights agreement included in this proxy statement/ prospectus as *Annex D* and (iv) Neurogen s real properties, substantially in the form of the contingent value rights agreement included in this proxy statement/prospectus as *Annex E. Annex B*, *Annex C*, *Annex D* and *Annex E* are each incorporated by reference into this proxy statement/prospectus. The following summary

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describes the material provisions of the contingent value rights agreements. This summary may not contain all of the information about the contingent value rights agreements that is important to you. You are encouraged to read the forms of contingent value rights agreements carefully in their entirety because when entered into among Ligand, Neurogen and the rights agent, these documents will be the legal documents governing the contingent value rights to be issued to former Neurogen securityholders in connection with the merger. Although the definitive version of the contingent value rights agreements negotiated and entered into with the chosen rights agent is not expected to differ from the form of contingent value rights agreements included with this proxy statement/prospectus in any respect that would be material to holders of contingent value rights, there can be no assurance that any changes will not, in fact, be material to holders.

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

- (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 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, any amount remaining in the operating expense reserve account;

- (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, each holder would also receive a proportionate share 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, each holder would also receive a proportionate share of 50% of the net sale proceeds;

- $3 million if a milestone payment from Merck is received upon the initiation of a Phase 3 clinical trial of a VR1 antagonist drug for the treatment of pain, or 50% of the net proceeds if such program is sold back to Merck before the milestone payment is made; and

- 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.

CVRs Non-transferable

The CVRs are designed not to be marketable. They may not be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, other than through a permitted transfer and, in the case of a permitted transfer, only in accordance with the provisions of the CVR agreements regarding procedures for transfer and in compliance with applicable United States federal and state securities laws. For purposes of the CVR agreements, a permitted transfer means:

- transfers of any or all of the CVRs on death by will or intestacy;

- transfers by instrument to an inter vivos or testamentary trust in which the CVRs are to be passed to beneficiaries upon the death of the trustee;

- transfers made pursuant to a court order of a court of competent jurisdiction (such as in connection with divorce, bankruptcy or liquidation);

if the holder is a partnership or limited liability company, a distribution by the transferring partnership or limited liability company to its partners or members, as applicable;

- transfers made by operation of law (such as a merger or consolidation), or in connection with the dissolution, liquidation or termination of any corporation, limited liability company, partnership or other entity;

- transfers from a participant account in tax-qualified employee benefit plans to such participant or to such participant s account in a different tax-qualified employee benefit plan or to a tax-qualified individual retirement account for the benefit of such participant; or

- transfers from a participant in a tax-qualified employee benefit plan, who received the CVRs from such participant s account in such tax-qualified employee benefit plan, to such participant s account in a different tax-qualified employee benefit plan or to a tax-qualified individual retirement account for the benefit of such participant.

Sole Discretion and Decision Making Authority

The CVR agreements provide:

- in the case of the Aplindore CVR agreement, that Ligand shall attempt to sell the Aplindore program for the benefit of the holders of the Aplindore CVRs, but have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over (a) any continued operation of, development of or investment in the Aplindore program and (b) when (if ever) to consummate the sale of all or any portion of the Aplindore program to any purchaser, and upon what terms and conditions; provided, however, that before the six month anniversary of the merger, Ligand shall not sell all or any portion of the Aplindore program for any consideration other than cash or shares of stock listed for trading on a U.S. national securities exchange;

- in the case of the H3 CVR agreement, that Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith, 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;

- in the case of the Merck CVR agreement, that Ligand shall have sole discretion and decision making authority, which shall be exercised in good faith, over any continued operation of, development of or investment 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 upon what terms and conditions; provided, however, that pursuant to the Merck CVR agreement, there are timing restrictions on Ligand s ability to (a) sell, convey or otherwise transfer the VR1 program rights to anyone other than Merck and (b) accept any consideration from Merck for the VR1 program rights other than cash to be paid in full within 90 days of the sale, conveyance, relinquishment or other transfer of the VR1 program rights (for avoidance of doubt: Merck will control the operations of the VR1 program and when, if ever, to initiate the VR1 Phase 3 trial; and Merck may not wish to buy the VR1 program, even if Ligand wishes to sell it); and

- in the case of the real estate CVR agreement, that Ligand shall attempt to sell the real properties owned by Neurogen for the benefit of the holders of the real estate CVRs, but shall have sole discretion and decision making authority, which shall be exercised in good faith and with commercial reasonableness, over when (if ever) to consummate the sale of all, or any parcel of the real estate, to any purchaser, and upon what terms and conditions.

Achievement and Non-Achievement Certificates

The CVR agreements provide that the rights agent shall promptly deliver a copy of an achievement or non-achievement certificate (reflecting, respectively, satisfaction or non-satisfaction of the conditions to payment described above), as applicable, to each holder of CVRs after it is received by the rights agent. Upon receipt of a non-achievement certificate, any holder or holders of at least 20% in the aggregate of the outstanding CVRs may, within 45 days of receipt of the non-achievement certificate, require that the rights agent deliver a notice

specifying that such holder or holders object to the non-achievement certificate. Such notice shall include a statement of the reason upon which such holder or holders have determined that the condition to payment was satisfied within the required time period.

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

If Ligand delivers to the rights agent an achievement certificate (or if the CVR payment amount is otherwise determined to be payable pursuant to the arbitration provisions in the CVR agreement), Ligand shall establish a CVR payment date that is within 15 calendar days of the date of the achievement certificate (or the date of final determination pursuant to the arbitration provisions in the applicable CVR agreement). At least five business days before such CVR payment date, Ligand shall cause the CVR payment amount to be delivered to the rights agent, who will in turn, on such CVR payment date, distribute the CVR payment amount on a pro rata basis to the CVR holders.

Rights of CVR Holders

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

Amendment of CVR Agreements

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

- to evidence the succession of another person to Ligand and the assumption by any successor of the covenants of Ligand in the applicable CVR agreement; or
- to evidence the termination of the applicable CVR registrar and the succession of another person as a successor CVR registrar and the assumption by any successor of the obligations of the CVR registrar.

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

- to evidence the succession of another person as a successor rights agent and the assumption by any successor of the covenants and obligations of the rights agent;
- to add to the covenants of Ligand any further covenants, restrictions, conditions or provisions as Ligand and the rights agent considered to be for the protection of CVR holders; provided that in each case, the provisions do not adversely affect the rights of CVR holders;
- to cure any ambiguity, to correct or supplement any provision in the applicable CVR agreement that may be defective or inconsistent with any other provision, or to make any other provisions with respect to matters or questions arising under the applicable CVR agreement; provided that in each case, the provisions do not adversely affect the rights of CVR holders; or
- to add, eliminate or change any provision in the applicable CVR agreement unless such addition, elimination or change is adverse to the rights of CVR holders.

With the written consent of holders of not less than a majority of the CVRs then outstanding, Ligand may enter into one or more amendments to any or all of the CVR agreements for the purpose of adding, eliminating or changing any provision of the applicable CVR agreement, even if the addition, elimination or change is in any way adverse to the rights of CVR holders.

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Consolidation, Merger, Sale or Conveyance of Ligand

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

Termination of CVR Agreements

The CVR agreements terminate upon the earliest to occur of (i)(A) in the case of the Aplindore CVR agreement, the payment of the last possible Aplindore CVR payment amount, (B) in the case of the H3 CVR agreement, the payment of the H3 CVR payment amount, (C) in the case of the Merck CVR agreement, the payment of the Merck CVR payment amount and (D) in the case of the real estate CVR agreement, the payment of the last possible real estate CVR payment amount, (ii) in the event that an objection notice regarding the non-achievement certificate pursuant to a CVR agreement is not delivered within the required 45-day period following the distribution of the rights agent to CVR holders of such non-achievement certificate, the expiration of such period or (iii) in the event of the delivery of an objection notice regarding the non-achievement certificate pursuant to a CVR agreement, either (i) the final determination in accordance with such CVR agreement that the condition to payment has not been satisfied or (ii) the fulfillment of any payment or other obligation required pursuant to a final determination made in accordance with such CVR agreement.

Treatment of Option and Warrant Holders

The holders of any outstanding options to purchase Neurogen common stock that are not cancelled before the effective time of the merger and the holders of any outstanding warrants to purchase Neurogen stock shall be entitled to receive consideration equivalent to the CVRs upon exercise of such options or warrants by the holder thereof and following the receipt by Ligand of the applicable exercise price thereof.

Voting Agreements

As an inducement to Ligand and as a condition to Ligand s entering into the merger agreement, each of Warburg Pincus Private Equity VIII, L.P., Stephen R. Davis, Julian Baker, Baker/Tisch Investments, L.P., Baker Bros. Investments, L.P., Baker Bros. Investments II, L.P., Baker Biotech Fund I, L.P., Baker Brothers Life Sciences, L.P. and FBB Associates, or collectively the stockholder parties, entered into voting agreements with Ligand, whereby the stockholder parties agreed to vote all of the shares of Neurogen common stock beneficially owned by them in favor of adoption of the merger agreement and approval of the merger and against any acquisition proposal or superior proposal. The stockholder parties also granted Ligand an irrevocable proxy to vote such shares in accordance with the preceding sentence. The voting agreements limit the ability of the stockholder parties to sell or otherwise transfer the shares of Neurogen common stock beneficially owned by them. As of September 29, 2009, the stockholder parties owned an aggregate of approximately 32.0% of the outstanding shares of Neurogen common stock. The voting agreements will terminate upon (i) mutual agreement, (ii) the effective time of the merger, (iii) the termination of the merger agreement in accordance with its terms or (iv) any amendment, modification or change (or waiver , which waiver is made at the request of, or with the consent of, Ligand) to the terms of the merger agreement or one or more of the CVR Agreements that is not consented to by a stockholder party and is or results in (w) any change (adverse-to-the-stockholder-party) in the exchange ratio as defined in the merger agreement, or (x) any change (adverse-to-the-stockholder-party) to the economic terms of the CVRs and the forms of CVR Agreements, or (y) any change to the merger agreement provisions governing the economic terms of any potential cash payment that may be paid to Neurogen s stockholders before the effective time of the merger, or (z) any change in the form of consideration payable pursuant to the merger agreement or the CVR agreements.

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SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS OF NEUROGEN

The table below reflects the number of shares beneficially owned by (a) each director of Neurogen; (b) each executive officer of Neurogen; (c) all current directors and executive officers as a group; and (d) each person or group known to Neurogen to own more than 5% of the outstanding shares of Neurogen common stock. Unless otherwise noted the information is stated as of August 26, 2009 and the beneficial owners exercise sole voting and investment power over the shares. Shares of Neurogen common stock outstanding on August 26, 2009 were 68,974,080.

In addition, Ligand has beneficial ownership of 26,530,442 shares of Neurogen common stock, including 4,591,743 shares subject to options and warrants exercisable within 60 days, by virtue of its shared voting power arising from its voting agreements with Warburg Pincus Private Equity VIII, L.P., Julian Baker and entities affiliated with him, and Stephen R. Davis. 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. Those persons also have beneficial ownership of the same shares, as reflected in the table below.

Name and Address of Beneficial Owner	Shares Owned including Options Exercisable within 60 days of August 26, 2009	Right to Acquire Beneficial Ownership under Options Exercisable within 60 days of August 26, 2009	Percent of Common Stock owned
Warburg Pincus & Co.[(1)] 466 Lexington Avenue New York, NY 10017	13,571,411		19.7
Andrew H. Tisch[(2)]	947,108		1.4
Daniel R. Tisch[(2)]	947,108		1.4
James S. Tisch[(2)]	947,108		1.4
Thomas J. Tisch[(2)]	947,108		1.4
Joan H. Tisch[(2)]	24,100		*
Four-Fourteen Partners, LLC[(2)] 667 Madison Avenue New York, NY 10065	2,800,004		4.1
Tang Capital Management[(3)] 441 Eastgate Mall San Diego, CA 92121	4,578,980		6.6
All current officers and directors as a group (10 persons)	10,461,153	1,629,881	15.1
Stephen R. Davis	602,735	457,053	*
Julian C. Baker[(4)]	8,327,141	105,535	12.2
Eran Broshy	92,809	92,809	*
Stewart Hen	85,042	85,042	*
John LaMattina	14,824	14,824	*
George Maynard	183,215	104,251	*
Thomas A. Pitler	310,088	219,046	*
Craig Saxton	203,247	178,247	*
John Simon	413,748	105,524	*
Kenneth J. Sprenger	209,256	117,820	*
Srdjan Stankovic	169,048	150,000	*

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Notes:

* Less than 1% of the outstanding shares of common stock.

(1) Based on a Schedule 13D/A filed with the SEC on August 25, 2009, reporting beneficial ownership as of August 23, 2009, by Warburg Pincus Private Equity VIII, L.P., (WP VIII LP), Warburg Pincus LLC, the manager of each Investor defined below (WP LLC), Warburg Pincus Partners LLC, (WP Partners LLC) , Warburg Pincus & Co., the sole general partner of WP VIII and the managing member of WP Partners (WP) and Messrs. Charles R. Kaye and Joseph P. Landy, each a Managing General Partner of WP and Co-President and Managing Member of WP LLC. Due to their respective relationships with Warburg and each other, each of WP IX LLC, WP LLC, WPP LLC, WP, Mr. Kaye and Mr. Landy may be deemed to beneficially own, and each report shared voting and shared dispositive power with respect to, an aggregate of 13,571,411 shares of Common Stock (the WP Shares), excluding 2,499,991 of Common Stock issuable upon the exercise of Warrants to purchase Common Stock beneficially owned by Warburg Pincus Private Equity VIII, L.P. reported as beneficially owned in the Schedule 13D/A. The WP Shares include the holdings of Warburg Pincus Netherlands Private Equity VIII C.V. I (WPNPE) and WP-WPVIII Investors L.P. (WPVIII). Each of WP VII LP, WP LLC, WP, WP Partners LLC, Mr. Kaye and Mr. Landy disclaim beneficial ownership of all shares of the Common Stock except to the extent of any indirect pecuniary interest therein.

(2) Based on Schedule 13G/A with the SEC on January 30, 2009, reporting beneficial ownership as of December 31, 2008, by Andrew H. Tisch, Daniel R. Tisch, James H. Tisch, Thomas J. Tisch and Joan H. Tisch. The shares held by Andrew H. Tisch include 694,803 shares held directly by Andrew H. Tisch, 126,153 shares held by Andrew H. Tisch 1995 Issue Trust 1, and 126,152 shares held by Andrew H. Tisch 1995 Issue Trust 2 as to which Daniel R. Tisch has sole voting and sole dispositive power. The shares held by Daniel R. Tisch include 694,803 shares held directly by Daniel R. Tisch and 252,305 shares held by the Daniel R. Tisch 1999 Issue Trust as to which Daniel R. Tisch has sole voting and sole dispositive power. The shares held by James H. Tisch include 694,803 held directly by James H. Tisch and 252,305 shares held by the James S. Tisch 1995 Issue Trust as to which James S. Tisch has sole voting and sole dispositive power. Joan H. Tisch holds 24,100 shares as to which she has sole voting and dispositive power. The shares held by Thomas J. Tisch include 694,803 held directly by Thomas J. Tisch and 252,305 shares held by the Thomas J. Tisch 1994 Issue Trust and 2,800,004 shares held by Four-Fourteen Partners, LLC as to which Thomas J. Tisch has sole voting and sole dispositive power. By virtue of their status as trustees of the respective Trusts referred to above, each of Andrew H. Tisch, Daniel R. Tisch, James S. Tisch and Thomas J. Tisch may be deemed to be the beneficial owner of securities held by those trusts. By virtue of his status as manager of Four-Fourteen Partners, LLC, Thomas J. Tisch may be deemed to be the beneficial owner of securities owned by Four-Fourteen Partners, LLC. Each of Andrew H. Tisch, Daniel R. Tisch, James S. Tisch, Joan H. Tisch and Thomas J. Tisch disclaims that he or she and any other person or persons in fact constitute a group for purposes of Section 13(d)(3) of the Securities Exchange Act of 1934, as amended, or Rule 13d-5 thereunder or that he or she is the beneficial owner of, or has a pecuniary interest in, any securities owned by any other person. The address of each person is 667 Madison Ave., 7th Floor, New York, NY 10021, except for Daniel R. Tisch, whose address is 500 Park Ave., New York, NY 10022.

(3) Based on a Schedule 13G/A filed with the SEC on February 17, 2009 which reported beneficial ownership as of December 13, 2008 for Tang Capital Partners, LP and Tang Capital Management as the general partner of Tang Capital Partners. Tang Capital Management, Tang Capital Partners and Kevin C. Tang share voting and dispositive power over the 4,578,980 shares. Kevin C. Tang is manager of Tang Capital Management. Mr. Tang disclaims beneficial ownership of all shares reported herein except to the extent of his pecuniary interest therein.

(4) Based on a Schedule 13D/A filed with the SEC on April 15, 2008, reporting beneficial ownership as of April 11, 2008 by Julian C. Baker (J. Baker) and Felix J. Baker (F. Baker). Includes 16,200 shares held directly by J. Baker as to which he has sole voting as dispositive power, 4,692 shares held directly by F. Baker as to which he has sole voting and dispositive power and 210,556 shares held by Baker/Tisch Investments, L.P., 230,162 shares held by Baker Bros. Investments, L.P., 203,190 shares held by Baker

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Bros. Investments II, L.P., 2,195,509 shares held by Baker Biotech Fund I, L.P., 2,307,661 shares held by Baker Brothers Life Sciences, L.P., and 58,500 shares held by FBB Associates as to which J. Baker and F. Baker have shared voting and shared dispositive power. Excluding 652,275shares held by Baker Biotech Fund I, L.P., 60,372 shares held by Baker Bros Investments II, L.P., 68,380 shares held by Baker Bros Investments, L.P., 685,581 shares held by Baker Brothers Life Sciences, L.P. and 62,556 shares held by Baker/Tisch Investments, L.P. issuable upon the exercise of Warrants to purchase Common Stock. By virtue of their ownership of entities that have power to control the investment decisions of the limited partnerships listed above, J. Baker and F. Baker may each be deemed to be the beneficial owners of the shares owned by such entities. J. Baker and F. Baker are also sole partners of FBB Associates, a general partnership and as such may be deemed to be beneficial owners of shares owned by FBB Associates. The address for J. Baker, F. Baker and each entity listed above is 667 Madison Avenue, 17th Floor, New York, NY 10065.

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UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

The following unaudited pro forma condensed combined balance sheet is based on historical unaudited balance sheets of Ligand and Neurogen and has been prepared to reflect the merger as if it had been completed on the balance sheet date of June 30, 2009. The following unaudited pro forma condensed combined statements of operations give effect to the merger as if it had taken place on January 1, 2008, the beginning of the earliest period presented, in accordance with SEC guidance.

The merger will be accounted for under the acquisition method of accounting in accordance with Statement of Financial Accounting Standards No. 141 (revised 2007), Business Combinations. Under the purchase method of accounting, the total estimated purchase price, calculated as described in Note 2 to these unaudited pro forma condensed combined financial statements, is allocated to the net tangible and intangible assets of Neurogen based on their estimated fair values. Management has made a preliminary allocation of the estimated purchase price to the tangible and intangible assets acquired and liabilities assumed based on various preliminary estimates. A final determination of these estimated fair values, which cannot be made prior to the completion of the merger, will be based on the actual net tangible and intangible assets of Neurogen that exist as of the date of completion of the merger, and upon the final purchase price.

The unaudited pro forma condensed comb