

LIGAND PHARMACEUTICALS INC  
Form 10-K  
February 24, 2014  
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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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FORM 10-K

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Mark One

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2013

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_.

Commission File No. 001-33093

LIGAND PHARMACEUTICALS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware

77-0160744

(State or other jurisdiction of incorporation or organization)

(IRS Employer Identification No.)

11119 North Torrey Pines Rd., Suite 200  
La Jolla, CA

92037

(Address of Principal Executive Offices)

(Zip Code)

Registrant's telephone number, including area code: (858) 550-7500

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class

Name of Each Exchange on Which Registered

Common Stock, par value \$.001 per share

The NASDAQ Global Market of The NASDAQ Stock Market LLC

Preferred Share Purchase Rights

The NASDAQ Global Market of The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934. Yes  No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer or a smaller reporting company. See definition of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

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

Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2 of the Exchange Act). Yes  No

The aggregate market value of the Registrant’s voting and non-voting stock held by non-affiliates was approximately \$676.8 million based on the last sales price of the Registrant’s Common Stock on the NASDAQ Global Market of the NASDAQ Stock Market LLC on June 30, 2013. For purposes of this calculation, shares of Common Stock held by directors, officers and 10% stockholders known to the Registrant have been deemed to be owned by affiliates which should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the Registrant or that such person is controlled by or under common control with the Registrant.

As of February 14, 2014, the Registrant had 20,614,524 shares of Common Stock outstanding.

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DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Registrant's 2014 Annual Meeting of Stockholders to be filed with the Commission on or before April 30, 2014 are incorporated by reference in Part III of this Annual Report on Form 10-K. With the exception of those portions that are specifically incorporated by reference in this Annual Report on Form 10-K, such Proxy Statement shall not be deemed filed as part of this Report or incorporated by reference herein.

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## AVAILABLE INFORMATION:

We file electronically with the Securities and Exchange Commission, or the SEC, our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and, as necessary, amendments to these reports, pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended. The public may read or copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file such documents electronically with the SEC. The address of that site is <http://www.sec.gov>.

You may obtain a free copy of our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and amendments to those reports which are posted as soon as reasonably practicable after filing on our website at <http://www.ligand.com>, by contacting the Investor Relations Department at our corporate offices by calling (858) 550-7500 or by sending an e-mail message to [investors@ligand.com](mailto:investors@ligand.com). You may also request information via the Investor Relations page of our website.

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PART I

Cautionary Note Regarding Forward-Looking Statements:

You should read the following together with the more detailed information regarding our company, our common stock and our financial statements and notes to those statements appearing elsewhere in this document or incorporated by reference. The SEC allows us to “incorporate by reference” information that we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this report.

This report and the information incorporated herein by reference contain forward-looking statements that involve a number of risks and uncertainties. Although our forward-looking statements reflect the good faith judgment of our management, these statements can only be based on facts and factors currently known by us. Consequently, these forward-looking statements are inherently subject to risks and uncertainties, and actual results and outcomes may differ materially from results and outcomes discussed in the forward-looking statements.

Forward-looking statements can be identified by the use of forward-looking words such as “believes,” “expects,” “hopes,” “may,” “will,” “plan,” “intends,” “estimates,” “could,” “should,” “would,” “continue,” “seeks,” “pro forma,” or “anticipates,” or words (including their use in the negative), or by discussions of future matters such as those related to our royalty revenues, collaborative revenues and milestones, and product development, as well as other statements that are not historical. These statements include but are not limited to statements under the captions “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” as well as other sections in this report. You should be aware that the occurrence of any of the events discussed under the caption “Risk Factors” and elsewhere in this report could substantially harm our business, results of operations and financial condition and that if any of these events occurs, the trading price of our stock could decline and you could lose all or a part of the value of your investment in our stock.

The cautionary statements made in this report are intended to be applicable to all related forward-looking statements wherever they may appear in this report. We urge you not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. Except as required by law, we assume no obligation to update our forward-looking statements, even if new information becomes available in the future. This caution is made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended.

References to “Ligand Pharmaceuticals Incorporated,” “Ligand,” the “Company,” “we,” “our” and “us” include our wholly owned subsidiaries-Ligand JVR, Allergan Ligand Retinoid Therapeutics, Seragen, Inc., Pharmacoepia, LLC, or Pharmacoepia, Neurogen Corporation, or Neurogen, CyDex Pharmaceuticals, Inc., or CyDex, Metabasis Therapeutics, or Metabasis, and Nexus Equity VI LLC.

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Item 1. Business

Overview

We are a biotechnology company that operates with a business model focused on developing or acquiring revenue generating assets and coupling them with a lean corporate cost structure. Our goal is to create a sustainably profitable business and generate meaningful value for our stockholders. Since a portion of our business model is based on the goal of partnering with other pharmaceutical companies to commercialize and market our assets, a significant amount of our revenue is based largely on payments made to us by partners for royalties, milestones and license fees. We recognized the important role of the drug reformulation segment in the pharmaceutical industry and in 2011 added Captisol® to our technology portfolio. Captisol is a formulation technology that has enabled six FDA approved products, including Onyx's Kyprolis® and Baxter International's Nexterone® and is currently being developed in a number of clinical-stage partner programs. In comparison to our peers, we believe we have assembled one of the largest and most diversified asset portfolios in the industry with the potential to generate significant revenue in the future. The therapies in our development portfolio address the unmet medical needs of patients for a broad spectrum of diseases including hepatitis, immune (idiopathic) thrombocytopenic purpura, or ITP, muscle wasting, multiple myeloma, Alzheimer's disease, dyslipidemia, diabetes, anemia, epilepsy, Focal Segmental Glomerulosclerosis, or FSGS, and osteoporosis. We have established multiple alliances with the world's leading pharmaceutical companies including GlaxoSmithKline, Onyx Pharmaceuticals (a subsidiary of Amgen, Inc.), Merck, Pfizer, Baxter International, Lundbeck Inc., Eli Lilly and Co., and Spectrum Pharmaceuticals, Inc.

We were incorporated in Delaware in 1987. Our principal executive offices are located at 11119 North Torrey Pines Road, Suite 200, La Jolla, California, 92037. Our telephone number is (858) 550-7500.

Business Strategy

Our business model is designed to create value for stockholders by assembling a diversified portfolio of biotech and pharmaceutical revenue streams and operating that business with an efficient and low corporate cost structure. Our goal is to become a sustainably profitable company that offers investors an opportunity to participate in the promise of the biotech industry in a diversified, lower-risk business than a typical biotech company. Our business model is based on the concept of doing what we do best: drug discovery, reformulation and partnering with other pharmaceutical companies to leverage what they do best (late-stage development, regulatory management and commercialization) to ultimately generate our revenue. Our revenue consists mostly of license fees, milestones, royalties from the partners that license our drugs and technologies, and Captisol material sales. In addition to discovering our own proprietary drugs, we use an aggressive acquisition strategy to bring in new assets, pipelines, and technologies to aid in generating additional potential new revenue streams. The principal elements of our strategy are set forth below.

We are assembling a large portfolio of fully funded programs through acquisition and licensing to drive future profitability. We have assembled a portfolio of over 90 fully funded partner programs that are in all stages of development, from preclinical research to awaiting commercialization. Fully funded programs are those for which our partners pay all of the development and commercialization costs. These assets represent the next wave of potential marketed drugs that could generate revenue for us. We assemble this portfolio by either licensing out our own proprietary drug development programs or acquiring existing partnered programs from other companies. For our internal programs, we generally plan to advance drug candidates through early-stage drug development and/or clinical proof-of-concept. We believe partnerships are not only a source of research funding, license fees, future milestone payments and royalties, but they also position our assets with companies that have the expertise to obtain regulatory approval and successfully launch and commercialize these assets. We believe that focusing on discovery and early-stage drug development while benefiting from our partners' proven development and commercialization expertise will reduce our internal expenses and allow us to have a larger number of drug candidates progress to later stages of drug development.

We sell Captisol material to a broad range of customers. We are the sole provider of a proprietary formulation technology known as Captisol. Captisol is a well validated chemically-modified cyclodextrin that improves the solubility, stability, and pharmacokinetics of many drugs. We generate revenue by selling Captisol material to our partners that have either licensed our proprietary Captisol-enabled drugs or have taken a license to use Captisol with their own internal programs.

We discover and develop compounds that are promising drug candidates. We discover, synthesize and test numerous compounds to identify those that are most promising for clinical development. We perform extensive target profiling and base our selection of promising development candidates on product characteristics such as initial indications of safety and efficacy. We believe that this focused strategy allows us to eliminate unpromising candidates

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from consideration sooner without incurring substantial clinical costs. Our goal is to partner our programs early in the development and regulatory life-cycle.

### Our Asset Portfolio

We have a large portfolio of current and future potential revenue-generating programs, over 90 of which are fully-funded by our partners. Over 70% of our 2013 revenue is derived from our Promacta®, Kyprolis, and Captisol programs (including Captisol material sales).

### Material Late-Stage Development or Commercial Programs

We have multiple partnered programs in our portfolio that are either in or nearing the regulatory approval process. These programs represent the next series of potential royalty generating assets in our portfolio.

#### Promacta (GSK)

GSK's Promacta (Eltrombopag) is the first oral thrombopoietin (TPO) receptor agonist therapy for the treatment of adult patients with chronic immune (idiopathic) thrombocytopenic purpura, or ITP. In late 2008, the U.S. Food and Drug Administration, or FDA, granted accelerated approval of Promacta for the treatment of thrombocytopenia in patients with chronic ITP, who have had an insufficient response to corticosteroids, immunoglobulins or splenectomy. In 2010, GSK received approval for Revolade® (eltrombopag/Promacta) from the European Medicines Agency's Committee for Medicinal Products for Human Use (CHMP) and from the Japanese Ministry of Health, Labour and Welfare for the oral treatment of thrombocytopenia (reduced platelet count) in adults with the blood disorder chronic ITP.

In February 2011, the FDA granted GSK full approval status for Promacta for ITP in the United States following the submission of long-term safety data from post-marketing clinical studies, as well as the completion of other commitments that verify the clinical benefit to patients. Additionally, it was reported in November 2011 that the Risk Evaluation and Mitigation Strategies (REMS) program that Promacta had been operating under in the United States was being significantly reduced in scope by the FDA due to data that had been submitted by GSK demonstrating the long-term safety of Promacta.

In November 2012, the FDA approved Promacta for the treatment of thrombocytopenia (low blood platelet counts) in patients with chronic hepatitis C to allow them to initiate and maintain interferon-based therapy. Promacta is the first supportive care treatment available to patients who are ineligible or poor candidates for interferon-based therapy due to their low blood platelet counts. Promacta in combination with interferon-based therapy has been shown to improve a patient's chance of achieving a sustained virologic response (SVR) or viral cure.

In September 2013, GSK received Marketing Authorization from the European Commission for an additional Revolade (eltrombopag/Promacta) indication as the first approved treatment for chronic Hepatitis C-associated thrombocytopenia.

GSK is conducting clinical studies of Promacta for various indications, including oncology-related indications. Promacta is authorized for use in 95 countries.

We entered into a Research, Development and License Agreement with SmithKline Beecham Corporation (now GSK) on December 29, 1994. The purpose of the agreement was to engage in a joint research and development effort to discover and/or design small molecule compounds which act as modulators of certain signal transducers and activators of transcription, or STATS, to develop pharmaceutical products from such compounds and to commercialize products resulting from the joint research and development. We granted an exclusive license under our patent rights to any product developed from the joint research. GSK has listed a patent in the FDA's Orange Book for Promacta with an expiration date in 2027, and we are entitled to receive royalties related to Promacta under this license as set forth below. The obligation to pay royalties lasts during the life of the relevant patents or at a reduced rate for ten years from the first commercial sale, whichever is longer, on a country-by-country basis. Absent early termination for bankruptcy or material breach, the term of the agreement expires upon expiration of the obligation to pay royalties. Either party may terminate the agreement in the event of bankruptcy or material breach. There are no remaining milestones to be paid under the agreement. We are entitled to receive royalties on annual net sales of Promacta as set forth in the following table:





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AGGREGATE NET SALES IN EACH CALENDAR YEAR	ROYALTY RATE*	
On portion of sales less than \$100 million	4.7	%
On portion of sales in range of \$100 million to \$200 million	6.6	%
On portion of sales in range of \$200 million to \$400 million	7.5	%
On portion of sales in range of \$400 million to \$1.5 billion	9.4	%
On portion of sales greater than \$1.5 billion	9.3	%

\*Net royalties due Ligand after payment to Rockefeller University.

Any such royalties may be subject to reduction (e.g., in the event of no patent coverage for the product) and/or may be subject to other terms and conditions set forth in our license agreement with GSK.

Kyprolis (Onyx Pharmaceuticals, a subsidiary of Amgen)

Ligand and Onyx Pharmaceuticals (formerly Proteolix, and now a subsidiary of Amgen, Inc.), entered into a collaboration in 2005 to develop the Captisol-enabled IV formulation of the active ingredient carfilzomib for refractory multiple myeloma. Under this agreement we agreed to sell Captisol to Onyx for use with carfilzomib, and granted an exclusive product-specific license under our patent rights with respect to Captisol. In July 2012, Onyx received accelerated approval from the FDA for Kyprolis (carfilzomib) for injection. Kyprolis is formulated with Ligand's Captisol technology and is used for the treatment of patients with multiple myeloma who have received at least two prior therapies, including bortezomib and an immunomodulatory agent, and have demonstrated disease progression on or within 60 days of completion of the last therapy. The indication for Kyprolis is based on response rate.

Onyx's obligation to pay royalties does not expire until four years after the expiration of the last-to-expire patent covering Captisol. Our patents and applications relating to the Captisol component of Kyprolis are not expected to expire until 2033. Our agreement with Onyx may be terminated by either party in the event of material breach or bankruptcy, or unilaterally by Onyx with prior written notice, subject to certain surviving obligations such as placing orders under any binding forecasts. Absent early termination, the agreement will terminate upon expiration of the obligation to pay royalties. Under this agreement, we are entitled to receive remaining milestones of up to \$2.5 million, revenue from clinical and commercial Captisol material sales and royalties on annual net sales of Kyprolis as set forth in the following table:

AGGREGATE NET SALES IN EACH CALENDAR YEAR	ROYALTY RATE	
Up to, and including \$250 million	1.5	%
Above \$250 million to \$500 million	2.0	%
Above \$500 million to \$750 million	2.5	%
Above \$750 million	3.0	%

Avinza (Pfizer)

We currently receive royalty revenues from Pfizer, Inc., or Pfizer, for sales of the pain therapeutic Avinza®. In February 2007, we completed the sale of our Avinza product line, together with all patent rights and licenses related to Avinza, to King Pharmaceuticals, which was acquired by Pfizer in February 2011. As a result of the sale, we are entitled to receive royalties from Prizer on net sales of Avinza through the term of the relevant patent, which we currently expect to expire on November 25, 2017. Royalties on annual net sales are paid at a rate of 5% on sales up to \$200 million, 10% on sales above \$200 million and 15% on sales above \$250 million. Neither party to the agreement has any ongoing termination rights.

We have multiple partnered programs in our portfolio that are either in or nearing the regulatory approval process.

These programs represent the next series of potential royalty generating assets in our portfolio:

Captisol-enabled Melphalan IV (Spectrum Pharmaceuticals, Pivotal, Stem Cell Transplant Conditioning)

In March 2013, we licensed the full world-wide rights to Captisol-enabled melphalan IV to Spectrum Pharmaceuticals, Inc., or Spectrum. The Captisol-enabled, PG-free melphalan program uses a new intravenous formulation of melphalan for the multiple myeloma transplant setting, and has been granted Orphan Designation by

the

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FDA. The formulation avoids the use of propylene glycol, which has been reported to cause renal and cardiac side-effects that limit the ability to deliver higher quantities of therapeutic compounds. The use of the Captisol technology to reformulate melphalan is anticipated to allow for longer administration durations and slower infusion rates, potentially enabling clinicians to safely achieve a higher dose intensity of pre-transplant chemotherapy. Under the terms of the license agreement, we granted an exclusive license to Spectrum under our patent rights to Captisol relating to the melphalan product. We are eligible to receive over \$50 million in potential milestone payments under this agreement, and we are also eligible to receive royalties on future net sales of the Captisol-enabled melphalan product at a royalty rate in the range of 15% to 25%. Spectrum's obligation to pay royalties will expire at the end of the life of the relevant patents or when a competing product is launched, whichever is earlier, but in no event within ten years of the commercial launch. Our patents and applications relating to the Captisol component of melphalan are not expected to expire until 2033. Absent early termination, the agreement will terminate upon expiration of the obligation to pay royalties. The agreement may be terminated by either party for an uncured material breach or unilaterally by Spectrum by prior written notice. This program has completed enrollment in a pivotal clinical trial.

**Biologic Therapeutics Platform (Various Stages of Development)**

In April 2013, we acquired a portfolio of possible future royalty and milestone payment rights from Selexis SA, based on over 15 Selexis commercial license agreement programs with various pharmaceutical companies. Under the terms of our Royalty Stream and Milestone Payments Purchase Agreement with Selexis, we are eligible to receive approximately \$17 million in milestones and potentially over \$40 million in estimated annual royalties from these assets. The payment obligations for the particular programs are set forth in the various underlying commercial license agreements between Selexis and various third parties, which have remaining terms tied to the life of the underlying patents, which we currently expect to be maintained until at least 2026. In return for the rights to these payment streams, we paid Selexis \$3.5 million in an upfront cash payment, and expect to make a \$1 million cash payment in April 2014 on the first anniversary of the acquisition. Neither we nor Selexis has any ongoing termination rights with respect to our acquisition agreement.

The programs that we acquired in this transaction are based on Selexis' technology platform for cell line development and scale-up to manufacturing of therapeutic proteins, and relate to pre-commercialized drugs that are currently being developed; the programs should thus require no funding or technological support from Ligand. Selexis retained ownership of the underlying intellectual property for each of these programs. The programs covered by the Selexis transaction include novel biologics programs with Merrimack (MM-121, MM-111, MM-302 and MM-151), Baxter (BAX69), Aveo, CSL and Glenmark and biosimilar programs with Coherus and Biocad.

**Select Other Late-Stage Development or Commercial Programs**

Duavee (bazedoxifene/conjugated estrogens) and Viviant/Conbriza (Pfizer)

In 2010, our partner Pfizer launched Viviant® (bazedoxifene) in Japan for the treatment of postmenopausal osteoporosis. The drug is also marketed in Spain under the brand name Conbriza® through a co-promotion with Almirall, an international pharmaceutical company based in Spain. Viviant was approved in 2009 by the European Commission (under the trade name Conbriza) for the treatment of postmenopausal osteoporosis in women at increased risk of fracture. Viviant, a selective estrogen receptor modulator, or SERM, is a result of the successful research collaboration between Wyeth (now a subsidiary of Pfizer) and us that began in 1994. Pfizer is responsible for the registration and worldwide marketing of bazedoxifene, a synthetic drug specifically designed to reduce the risk of osteoporotic fractures while also protecting uterine tissue.

Pfizer has combined bazedoxifene (discussed above) with the active ingredient in Premarin® to create Duavee®, a combination therapy for the treatment of post-menopausal symptoms in women. Pfizer obtained FDA approval for Duavee in the United States in October 2013 and filed an approval submission with the EMA in 2012. Pfizer launched Duavee in the United States in the first quarter of 2014.

Net royalties on annual net sales of Viviant and Duavee are each payable to us at a rate shown in the table below and are payable through the life of the relevant patents.



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AGGREGATE NET SALES IN EACH CALENDAR YEAR	ROYALTY RATE *	
On portion of sales less than \$400 million	0.5	%
On portion of sales in range of \$400 million to \$1 billion	1.5	%
On portion of sales greater than \$1 billion	2.5	%

\* Net royalties due Ligand after payment to Royalty Pharma.

Any such royalties may be subject to reduction or offset for past milestone payments and/or may be subject to other terms and conditions set forth in our license agreement with Pfizer.

#### Nexterone (Baxter International)

In 2006, we outlicensed Nexterone, an injectable formulation combining amiodarone and Captisol, to Baxter International, Inc. or Baxter (which acquired Prism Pharmaceuticals, Inc., the original licensee, in 2011). Under the terms of the agreement, Baxter is responsible, under an exclusive worldwide license, for all development and commercialization of Nexterone at its sole expense. In 2010, Nexterone was approved by the FDA and launched in the United States in 2011. We are supplying Captisol to Baxter for use in accordance with the terms of the license agreement under a separate supply agreement. Baxter has paid milestone payments and is obligated to pay royalties to us on sales of Nexterone through early 2033.

#### Captisol-enabled Noxafil-IV (Merck, NDA)

We and Merck entered into a Captisol supply agreement in June 2011 for Captisol-enabled Noxafil-IV. Merck has completed a Phase 3 study for this program and it filed a 505(b)(2) in 2013 for approval in the United States and European Union to market the drug. In the United States, the New Drug Application, or NDA, for Noxafil-IV was filed and received FDA Priority Review in November 2013. In the European Union, the Marketing Authorization Application, or MAA, is filed with the European Medicines Agency. Action is expected for both the NDA and MAA in 2014, which may lead to commercial sale of Captisol for the program in multiple markets. We will receive our commercial compensation for this program through the sale of Captisol, and we will not receive a royalty on this program.

#### MK-8931 Beta-Secretase Inhibitor (Merck, Phase 3, Alzheimer's Disease)

We have a development agreement with Merck (formerly Schering-Plough) for a beta-secretase, or BACE, inhibitor program for the treatment of Alzheimer's disease. This disease is characterized by plaques of the toxic amyloid-beta protein within the brain. BACE is believed to be a key enzyme in the production of amyloid-beta protein.

Amyloid-beta is formed when the larger amyloid precursor protein (APP) is cleaved by two enzymes, BACE and gamma-secretase, which releases the amyloid-beta fragment. A BACE inhibitor is expected to reduce amyloid-beta generation in Alzheimer's disease patients.

In December 2012, Merck initiated a Phase 2/3 clinical trial for its lead BACE inhibitor product candidate, MK-8931, evaluating its safety and efficacy in patients with mild-to-moderate Alzheimer's disease. In December 2013, Merck announced progression of the program to Phase 3 by advancing the Phase 2/3 trial to Phase 3 and by initiating a second Phase 3 trial. We are entitled to a royalty on potential future sales by Merck.

#### Sparsentan (formerly RE-021) (Retrophin, Phase 2, FSGS)

In early 2012, we licensed the world-wide rights to Sparsentan (formerly known as RE-021 and DARA-a Dual Acting Receptor Antagonist of Angiotension and Endothelin receptors) to Retrophin, Inc., or Retrophin. Retrophin is developing Sparsentan for orphan indications of severe kidney diseases including FSGS as well as conduct proof-of-concept studies in resistant hypertension and diabetic nephropathy. Certain patient groups with severely compromised renal function exhibit extreme proteinuria resulting in progression to dialysis and a high mortality rate. Sparsentan, with its unique dual blockade of angiotensin and endothelin receptors, is expected to provide meaningful clinical benefits in mitigating proteinuria in indications where there are no approved therapies. Retrophin announced initiation of a potentially pivotal Phase 2 clinical trial for Sparsentan on January 2, 2014.

In late 2012, we received a milestone payment of 620,000 shares of common stock in Retrophin. Former license holders are entitled to receive 15% of the proceeds received upon sale of this stock, and all proceeds related to this



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program. Under our license agreement with Retrophin we are entitled to receive over \$75 million in milestones, as well as 9% in royalties on future worldwide sales by Retrophin through the life of the relevant patents, which we currently expect to be through at least 2019 and may be extended until 2024. In 2013 we received a net \$1.2 million milestone payment from Retrophin.

Lasofoxifene (Azure Biotech and Ethicor, Estrogen receptor modulator)

On July 17, 2013, we entered into a license agreement with Azure Biotech, Inc., or Azure. Under the agreement, we granted to Azure an exclusive worldwide license to develop and market a novel formulation of lasofoxifene. We are entitled to receive up to \$2.6 million in potential development and regulatory milestones as well as a 5% royalty on future net sales through the later of the life of the relevant patents (currently expected to be at least until 2027) or 10 years after regulatory approval. Azure may terminate the license agreement at any time upon six months' prior notice. Lasofoxifene is an estrogen partial agonist for osteoporosis treatment and other diseases, discovered through the research collaboration between us and Pfizer. Under the terms of the license agreement with Azure, we retain the rights to the oral formulation of lasofoxifene originally developed by Pfizer.

In July 2013, we also entered into a license agreement with Ethicor for the manufacture and distribution of the oral formulation of lasofoxifene in the European Economic Area, Switzerland and the Indian Subcontinent. Under the terms of the agreement, we are entitled to receive potential sales milestones of up to \$16 million and a 25% royalty on future net sales. Ethicor plans to supply oral lasofoxifene as an unlicensed medicinal product, which may be requested by healthcare professionals to meet the clinical needs of patients when authorized medicines are unsuitable or contraindicated. In the European Union, there are approximately 37 million women with osteoporosis.

Captisol-enabled Carbamazepine-IV (Lundbeck, Phase 3, Epilepsy)

We have a development and commercialization agreement for Captisol-enabled carbamazepine-IV with Lundbeck (formerly Ovation Pharmaceuticals) for the use of Captisol in the formulation of CE carbamazepine-IV. Lundbeck is developing CE carbamazepine-IV for the management of acute seizure disorder for hospital or emergency settings and announced plans to submit an NDA prior to the end of 2013.

Captisol-enabled Delafloxacin-IV (Melinta, Phase 3, Infection)

We entered into a development and commercialization agreement for Captisol-enabled delafloxacin-IV in 2008 with Melinta Therapeutics, Inc. (formerly Rib-X Pharmaceuticals), or Melinta, for the use of Captisol in the intravenous formulation of delafloxacin. Delafloxacin is a novel hospital-focused fluoroquinolone antibiotic candidate with potency against a variety of quinolone-resistant Gram-positive and Gram-negative bacteria, including quinolone-resistant, methicillin-resistant *Staphylococcus aureus*, or MRSA. In 2013 Melinta initiated the first of two planned Phase 3 clinical trials of delafloxacin for the treatment of acute bacterial skin and skin structure infections (ABSSSI), including infections caused by MRSA. Melinta has made certain milestone payments to us already and may be required to pay us an aggregate of an additional \$3.6 million upon the achievement of specified development and regulatory approval milestones. We are entitled to a royalty on potential future sales by Melinta.



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## Captisol-enabled Topiramate IV (CurX, Phase 1, Epilepsy)

In July 2013, the FDA granted orphan-drug designation for our proprietary Captisol-enabled Topiramate Injection for the treatment of partial onset or primary generalized tonic-clonic seizures in hospitalized epilepsy patients who are unable to take oral topiramate. In August 2013, we entered a global license agreement with CURx Pharmaceuticals, Inc. for the development and commercialization of Topiramate. CurX has made certain milestone payments to us already and may be required to pay us an aggregate of an additional \$19.6 million, net of amounts owed to third parties upon the achievement of specified milestones. Additionally, we are owed net tiered royalties on future sales of 6.0% to 7.5%.

## Internal Product Development Programs

As summarized in the table below, we are developing several proprietary products for a variety of indications. These programs represent our future licensing opportunities to expand our partnered asset portfolio.

Program	Disease/Indication	Development Phase
HepDirect	Liver Diseases	Preclinical
Oral Human Granulocyte Colony Stimulating Factor	Neutropenia	Preclinical
IRAK-4	Inflammation	Preclinical
Glucagon Receptor Antagonist	Diabetes	Phase 1
Selective Androgen Receptor Modulator	Various	Phase 2-ready
Captisol-Enabled Clopidogrel	Anti-coagulant	Phase 3

## HepDirect HCV Inhibitor Program

We are developing novel small molecule inhibitors of the Hepatitis C virus using our HepDirect technology platform. Data from current lead molecules suggest that directing these molecules to the liver using the HepDirect technology could produce fewer side effects and has the potential for an overall superior risk-benefit ratio compared to non-HepDirect therapies.

## Oral Human Granulocyte Colony Stimulating Factor (GCSF) Program

We have discovered a novel series of small molecules that selectively activate human granulocyte colony stimulating factor, or GCSF, receptor function in a manner distinct from GCSF, but similar to the mechanism of small-molecule human thrombopoietin receptor (hTPOR) agonists, such as eltrombopag (Promacta). The goal of our GCSFR agonist program is to develop a non-peptide, small molecule, oral GCSFR agonist that is a convenient, cost-effective alternative as compared to recombinant human GCSF for the treatment of neutropenia and other related indications. The lead compound, LG7455, activates the GCSF-GCSFR signaling pathway and induces the differentiation of human bone marrow cells into granulocytes. It also significantly increases peripheral blood neutrophils and demonstrated the first reported proof-of-concept for a small molecule GCSF receptor antagonist in a primate model. Further optimization of the LG7455 structure series could lead to a first-in-class, once-daily, oral medication for the treatment of congenital, chronic or chemotherapy-induced neutropenia.

## IRAK4 Inhibitor Program

We are developing small molecule Interleukin-1 Receptor Associated Kinase-4, or IRAK4, inhibitors for the treatment of inflammatory and immune disorders. IRAK4 plays an important role in the innate immune system and may also be

important for cross-talk between the innate and adaptive immune systems. IRAK4 is a key signaling component downstream of both toll-like receptors and interleukin-1 receptors suggesting that it may have therapeutic value for a range of autoimmune and inflammatory conditions. Inhibition of IRAK4 activity has been implicated in multiple diseases including rheumatoid arthritis, systemic lupus erythematosus, gout, inflammatory bowel disease, asthma, and allergic rhinitis. Inhibitors of IRAK4 may also be useful for the treatment of certain leukemias and lymphomas. We have identified orally available small molecule inhibitors of IRAK4 which are under investigation for use in cancer and autoimmune diseases.

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### Glucagon Receptor Antagonist Program

We are currently developing small molecule glucagon receptor antagonists for the treatment of Type II diabetes mellitus. Compounds that block the action of glucagon may reduce the hyperglycemia that is characteristic of this disease. Glucagon stimulates the production of glucose by the liver and its release into the blood stream. In diabetic patients, glucagon secretion is abnormally elevated and contributes to hyperglycemia in these patients. Clinical proof of concept studies with glucagon receptor antagonists in Type 2 diabetic patients were reported at the American Diabetes Association Annual Meeting in 2011 and 2012, supporting the potential benefit of this therapeutic target. Our advanced glucagon antagonist compound blocks glucagon action in human hepatocytes in vitro, reduces blood glucose in animal models of Type 1 and Type 2 diabetes, has demonstrated good oral bioavailability in rodents, and has a safety profile in preclinical studies suitable for further clinical development.

In October 2013, the FDA accepted our Investigational New Drug, or IND, application for our proprietary Glucagon receptor antagonist product (LGD-6972) candidate for the treatment of diabetes. LGD-6972 was acquired in connection with our acquisition of Metabasis and we may be required to remit payment to the contingent value right, or CVR, holders upon the sale or partnering of the asset. We initiated a Phase 1 clinical trial in the fourth quarter of 2013.

### Selective Androgen Receptor Modulator (SARM)

Our LGD-4033 is a non-steroidal selective androgen receptor modulator, or SARM, that is expected to produce the therapeutic benefits of testosterone with improved safety, tolerability and patient acceptance due to a tissue-selective mechanism of action and an oral route of administration. We have discovered several novel orally active, non-steroidal SARM compounds, including LGD-4033, based on tissue-specific gene expression and other functional, cell-based technologies. In animal models, LGD-4033 demonstrated anabolic activity in muscles, anti-resorptive and anabolic activity in bones and a robust selectivity for muscle and bone versus prostate and sebaceous glands. Phase 1 single and multiple dose escalation studies of LGD-4033 were conducted in a total of 116 healthy male subjects. The safety, tolerability and preliminary efficacy of LGD-4033 was evaluated in the double-blind, placebo-controlled Phase 1 multiple ending dose study. Healthy male subjects were randomized to receive 0.1, 0.3 or 1.0 mg LGD-4033 or placebo once daily over 21 days. Key findings of this study included: LGD-4033 was safe and well tolerated at all doses following daily oral administration for three weeks in young healthy males; no clinically significant dose-related adverse events were reported; no clinically significant changes in liver function tests, PSA, hematocrit or ECG were seen; positive dose-dependent trends in lean muscle mass increase were observed with drug-treated subjects; positive dose-dependent trends in functional exercise and strength measures were consistent with anabolic activity. LGD-4033 is positioned to enter into Phase 2 development, and potential studies include evaluation of LGD-4033 in conditions such as muscle wasting associated with cancer (cachexia), acute rehabilitation (e.g. hip fracture), and acute illness.

### Captisol-Enabled Clopidogrel (Unpartnered, Phase 3, Anti-coagulant)

Clopidogrel is the active ingredient in PLAVIX<sup>®</sup>, a leading anti-platelet medication which is currently only available in an oral formulation. The Captisol-enabled Clopidogrel formulation is designed to provide an intravenous option in situations where the administration of oral platelet inhibitors is not feasible or desirable. We licensed the full worldwide rights to The Medicines Company, or MedCo, in June 2011. In July 2013, we and MedCo mutually terminated the License Agreement dated June 1, 2011 and the related Supply Agreement dated June 1, 2011. Upon termination, the licensed rights relating to the compound were returned to us. MedCo recently conducted a pharmacokinetic and pharmacodynamic study of oral Clopidogrel and Captisol-enabled intravenous Clopidogrel in healthy volunteers. The study indicated a potential difference in metabolism between the oral and intravenous routes of administration for Clopidogrel, and MedCo elected not to proceed with further development.



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Other Internal Programs Eligible for Further Development Funding, Either Through Ligand or a Partner

- ▲Aplindore (Phase 2, Restless Leg/Parkinson's)
- Captisol-enabled Nasal Budesonide (Phase 1, Allergic Rhinitis)
- ♣Thyroid Receptor-beta Agonist (Phase 1, Dyslipidemia)
- ♠Histamine H3 Receptor Antagonist (Preclinical, Cognitive Disorders)
- Glucokinase Activator (Preclinical, Diabetes)
- ♠DGAT Inhibitor (Preclinical, Diabetes)
- CCR1 Inhibitor (Preclinical, Oncology)
- CRTH2 Inhibitor (Preclinical, Inflammation)
- ♣Topical JAK3 (Preclinical, Inflammation)
- Oral Erythropoietin (Preclinical, Anemia)
- ♠Meloxicam (Preclinical, Pain)

●Others

Technology

We employ various research laboratory methods to discover and conduct preclinical development of new chemical entities. These methods are performed either in our own laboratories or in those of contract research organizations under our direction.

Our discovery work is based on certain technologies and acquired special expertise related to intracellular receptors and the receptors for hematopoietic growth factors. Intracellular receptors are involved in the actions of non-peptide hormones and drugs such as SERMs and SARMs. Hematopoietic growth factor receptors are involved in the differentiation and proliferation of blood cell progenitors, the formation of new blood cells, and the action of drugs such as Promacta, Epogen and Neumega. We use and have developed particular expertise in co-transfection assays, which measure gene transcription in response to the activation of a target receptor, and gene expression in cells selected for expression of particular receptors or transfected with cDNA for particular receptors. Some of these methods are covered by patents issued to or licensed by us, some are trade secrets, and some are methods that are in the public domain, but that we may use in novel ways to improve our efficiency in identifying promising leads and developing new chemical entities.

In connection with our merger with Metabasis, we acquired certain HepDirect technology. HepDirect technology supplements our core drug discovery technology platform of ligand-dependent gene expression. HepDirect is a prodrug technology that targets delivery of certain drugs to the liver by using a proprietary chemical modification that renders a drug biologically inactive until cleaved by a liver-specific enzyme.

In connection with our acquisition of CyDex, we acquired the Captisol drug formulation platform technology. We use this technology to improve the solubility, stability, and/or pharmacokinetics of drugs, whether in our own internal development pipeline or those of our partners.

Manufacturing

We currently have no manufacturing facilities and rely on third parties, including our collaborative partners, for clinical production of any products or compounds.

We currently outsource the production of Captisol to Hovione FarmaCiencia SA, or Hovione, a major supplier of active pharmaceutical ingredients, or APIs and API intermediates located in Portugal. In 2002, CyDex entered into a Captisol supply agreement with Hovione, under which Hovione is our exclusive supplier of Captisol and is restricted from supplying Captisol to third parties, so long as specified conditions are met. In addition to its main manufacturing site in Loures, Portugal, Hovione will qualify additional sites if our forecast requirements for Captisol exceed the capabilities of the Loures site. We have ongoing minimum purchase commitments under the agreement and are required

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to pay Hovione an aggregate minimum amount during the agreement term. In 2008, we entered into an amendment to the supply agreement, under which we and Hovione agreed to reduce our minimum annual purchase requirement of Captisol and to extend the term of the agreement.

We pay Hovione unit prices, in U.S. dollars, for all Captisol supplied, which prices may be adjusted for fluctuation in currency exchange rates, change in raw material prices and change in the Portuguese consumer price index. Additionally, prices may be adjusted based on requested changes to the Captisol manufacturing process or specifications.

In the event of a Captisol supply interruption, we are permitted to designate and, with Hovione's assistance, qualify one or more alternate suppliers. If the supply interruption continues beyond a designated period, we may terminate the agreement. In addition, if Hovione cannot supply our requirements of Captisol due to an uncured force majeure event or if the unit price of Captisol exceeds a set figure, we may obtain Captisol from a third party. In December 2011, the contract was amended to allow certain bulk quantities of Captisol to be distributed directly from Hovione.

Additionally, in 2012, we qualified a Hovione site in Cork, Ireland to perform certain manufacturing steps to provide back-up and increased capacity to the Loures site.

The initial term of the agreement expires in December 2019. The agreement will automatically renew for successive two year renewal terms unless either party gives written notice of its intention to terminate the agreement no less than two years prior to the expiration of the initial term or renewal term. In addition, either party may terminate the agreement for the uncured material breach or bankruptcy of the other party or an extended force majeure event. We may terminate the agreement for extended supply interruption, regulatory action related to Captisol or other specified events.

For further discussion of these items, see below under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

### Competition

Some of the drugs we and our collaborative partners are developing may compete with existing therapies or other drugs in development by other companies. A number of pharmaceutical and biotechnology companies are pursuing intracellular receptor-related approaches to drug discovery and development. Furthermore, academic institutions, government agencies and other public and private organizations conducting research may seek patent protection with respect to potentially competing products or technologies and may establish collaborative arrangements with our competitors.

Many of our existing or potential competitors, particularly large pharmaceutical companies, have greater financial, technical and human resources than we do and may be better equipped to develop, manufacture and market products. Many of these companies also have extensive experience in preclinical testing and human clinical trials, obtaining FDA and other regulatory approvals and manufacturing and marketing pharmaceutical products.

Our competitive position also depends upon our ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary products or processes, and secure sufficient capital resources for the often substantial period between technological conception and commercial sales. For a discussion of the risks associated with competition, see below under "Item 1A. Risk Factors."

### Government Regulation

The manufacturing and marketing of our products, our ongoing research and development activities and products being developed by our collaborative partners are subject to regulation for safety and efficacy by numerous governmental authorities in the United States and other countries. In the United States, pharmaceuticals are subject to rigorous regulation by federal and various state authorities, including the FDA. The Federal Food, Drug and Cosmetic Act and the Public Health Service Act govern the testing, manufacture, safety, efficacy, labeling, storage, record keeping, approval, advertising and promotion of our products. There are often comparable regulations that apply at the state level. Product development and approval within this regulatory framework takes a number of years and involves the expenditure of substantial resources.

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The steps required before a pharmaceutical agent may be marketed in the United States include (1) preclinical laboratory tests, (2) the submission to the FDA of an IND, which must become effective before human clinical trials may commence, (3) adequate and well-controlled human clinical trials to establish the safety and efficacy of the drug, (4) the submission of an NDA to the FDA and (5) the FDA approval of the NDA prior to any commercial sale or shipment of the drug. In addition to obtaining FDA approval for each product, each domestic drug-manufacturing establishment must be registered with the FDA and, in California, with the Food and Drug Branch of California. Domestic manufacturing establishments are subject to pre-approval inspections by the FDA prior to marketing approval, then to biennial inspections, and must comply with current Good Manufacturing Practices (cGMP). To supply products for use in the United States, foreign manufacturing establishments must comply with cGMP and are subject to periodic inspection by the FDA or by regulatory authorities in such countries under reciprocal agreements with the FDA.

For both currently marketed and future products, failure to comply with applicable regulatory requirements after obtaining regulatory approval can, among other things, result in the suspension of regulatory approval, as well as possible civil and criminal sanctions. In addition, changes in existing regulations could have a material adverse effect on us.

We are also increasingly subject to regulation by the states. A number of states now regulate, for example, pharmaceutical marketing practices and the reporting of marketing activities, controlled substances, clinical trials and general commercial practices. We have developed and are developing a number of policies and procedures to ensure our compliance with these state laws, in addition to the federal regulations described above. Significant resources are now required on an ongoing basis to ensure such compliance. For a discussion of the risks associated with government regulations, see below under “Item 1A. Risk Factors.”

### Patents and Proprietary Rights

We believe that patents and other proprietary rights are important to our business. Our policy is to file patent applications to protect technology, inventions and improvements to our inventions that are considered important to the development of our business. We also rely upon trade secrets, know-how, continuing technological innovations and licensing opportunities to develop and maintain our competitive position.

Patents are issued or pending for the following key products or product families. The scope and type of patent protection provided by each patent family is defined by the claims in the various patents. The nominal patent expiration dates have been provided. The actual patent term may vary by jurisdiction and depend on a number of factors including potential patent term adjustments, patent term extensions, and terminal disclaimers. For each product or product family, the patents and/or applications referred to are in force in at least the United States, and for most products and product families, the patents and/or applications are also in force in European jurisdictions, Japan and other jurisdictions.

#### Promacta

Patents covering Promacta are owned by GSK. The United States patent listed in the FDA’s listing of Approved Drug Products with Therapeutic Equivalence Evaluations (the “Orange Book”) relating to Promacta with the latest expiration date is not expected to expire until 2027. The type of patent protection (e.g., composition of matter or use) for each patent listed in the Orange Book and the expiration date for each patent listed in the Orange Book are provided in the following table. In addition, certain related patents in the commercially important jurisdictions of Europe and Japan are identified in the following table.

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U.S. Patent No.	U.S. Expiration Date	Type of Protection	Jurisdiction (Expiration Date)§
U.S. 6,280,959	Oct. 30, 2018	composition of matter and use	EP 1864981 (05/24/21)
U.S. 7,160,870	Nov. 20, 2022	composition of matter and use	EP 1294378 (05/24/21) JP 3813875 (05/24/21)
U.S. 7,332,481	May 24, 2021	use	EP 1889838 (05/24/21) JP 4546919 (05/24/21)
U.S. 7,452,874	May 24, 2021	composition of matter and use	EP 1889838 (05/24/21) JP 4546919 (05/24/21)
U.S. 7,473,686	May 24, 2021	composition of matter and use	EP 1864981 (05/24/21) EP 1294378 (05/24/21) JP 3813875 (05/24/21)
U.S. 7,547,719	Jul. 13, 2025	composition of matter and use	EP 1534390 (05/21/23) JP 4612414 (05/21/23)
U.S. 7,790,704	May 24, 2021	use	
U.S. 7,795,293	May 21, 2023	use	
U.S. 8,052,993	Aug. 1, 2027	composition of matter and use	
U.S. 8,052,994	Aug. 1, 2027	composition of matter and use	
U.S. 8,052,995	Aug. 1, 2027	composition of matter and use	
U.S. 8,062,665	Aug. 1, 2027	composition of matter and use	
U.S. 8,071,129	Aug. 1, 2027	composition of matter and use	

Expiration dates of European and Japanese patents are calculated as 20 years from the earliest nonprovisional filing date to which priority is claimed, and do not take into account extensions that are or may be available in these jurisdictions.

## Kyprolis

Patents protecting Kyprolis include those owned by Onyx Pharmaceuticals and those owned by Ligand. The United States patent listed in the Orange Book relating to Kyprolis with the latest expiration date is not expected to expire until 2027. Patents and applications owned by Ligand relating to the Captisol component of Kyprolis are not expected to expire until 2033. The type of patent protection (e.g., composition of matter or use) for each patent listed in the Orange Book and the expiration dates for each patent listed in the Orange Book are provided in the following table. In addition, certain related patents in the commercially important jurisdictions of Europe and Japan are identified in the following table.

U.S. Patent No.	U.S. Expiration Date	Type of Protection	Jurisdiction (Expiration Date)§
U.S. 7,232,818	Apr. 14, 2025	composition of matter	EP 1745064 (04/14/25)
U.S. 7,417,042	Jun. 7, 2026	composition of matter	EP 1781688 (08/08/25) JP 4743720 (08/08/25)
U.S. 7,491,704	Apr. 14, 2025	use	EP 1745064 (04/14/25) EP 1819353 (12/07/25)
U.S. 7,737,112	Dec. 7, 2027	composition of matter	EP 2260835 (12/07/25) JP 4990155 (12/07/25) JP 5108509 (05/09/25)
U.S. 8,129,346	Dec. 25, 2026	use	EP 1745064 (04/14/25)
U.S. 8,207,125	Apr. 14, 2025	composition of matter	EP 1781688 (08/08/25) JP 4743720 (08/08/25)
U.S. 8,207,126	Apr. 14, 2025	composition of matter and use	
U.S. 8,207,127	Apr. 14, 2025	use	
U.S. 8,207,297	Apr. 14, 2025	composition of matter and use	



Expiration dates of European and Japanese patents are calculated as 20 years from the earliest nonprovisional filing date to which priority is claimed, and do not take into account extensions that are or may be available in these jurisdictions.

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## Avinza

The United States patent listed in the Orange Book relating to the Avinza formulation with the latest expiration date is not expected to expire until 2017; however, applications for generic forms of Avinza have been submitted to the FDA. The type of patent protection (e.g., composition of matter or use) for the patent listed in the Orange Book and the expiration date for the patent is provided in the following table. Certain related patents in other jurisdictions are not identified in the following table, as our royalties are based on sales in the United States.

U.S. Patent No.	U.S. Expiration Date	Type of Protection
U.S. 6,066,339	Nov. 25, 2017	composition of matter

## Captisol

Patents and pending patent applications covering Captisol are owned by Ligand. Other patents and pending patent applications covering methods of making Captisol are owned by Ligand or by Pfizer. The patents covering the Captisol product, if issued, with the latest expiration date would not be set to expire until 2033 (see, e.g., WO 2013/130666 (contains composition of matter and use claims; filed Feb. 27, 2013)). Ligand also owns several patents and pending patent applications covering drug products containing Captisol as a component. The type of patent protection (e.g., composition of matter or use) and the expiration dates for several issued patents covering Captisol are provided in the following table. In addition, certain related patents and applications in the commercially important jurisdictions of Europe and Japan are listed in the following table.

U.S. Patent No.	U.S. Expiration Date	Type of Protection	Jurisdiction (Expiration Date)†
U.S. 8,114,438	Mar. 19, 2028	composition of matter	EP 1755551 (pending) JP 2013028645 (pending)
U.S. 7,629,331	Oct. 26, 2025	composition of matter	EP 1945228 (10/26/25) EP 2581078 (pending)
U.S. 8,049,003	Dec. 19, 2026	use	EP 2583668 (pending) EP 2335707 (pending) EP 2268269 (pending)
U.S. 7,635,773	Mar. 13, 2029	composition of matter and use	JP 4923144 (04/28/29) JP 2012072160 (pending) EP 2268269 (pending)
U.S. 8,410,077	Sep. 6, 2030*	composition of matter	JP 4923144 (04/28/29) JP 2012072160 (pending)

†Expiration date of European and Japanese patents are calculated as 20 years from the earliest nonprovisional filing date to which priority is claimed, and do not take into account extensions that are or may be available in these jurisdictions.

\*Expiration date is subject to a terminal disclaimer.

Subject to compliance with the terms of the respective agreements, our rights to receive royalty payments under our licenses with our exclusive licensors typically extend for the life of the patents covering such developments. For a discussion of the risks associated with patent and proprietary rights, see below under “Item 1A. Risk Factors.”

## Human Resources

As of February 1, 2014, we had 20 full-time employees, of whom 6 are involved directly in scientific research and development activities. Of these employees, 6 hold Ph.D. or M.D. degrees.

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ITEM 1A. RISK FACTORS

The following is a summary description of some of the many risks we face in our business. You should carefully review these risks in evaluating our business, including the businesses of our subsidiaries. You should also consider the other information described in this report.

Revenues based on Promacta and Kyprolis represent a substantial portion of our overall current and/or expected future revenues.

GSK is obligated to pay us royalties on its sales of Promacta and we receive revenue from Onyx based on both sales of Kyprolis and purchases of Captisol material for clinical and commercial uses. These payments are expected to be a substantial portion of our ongoing revenues for some time. As a result, any setback that may occur with respect to Promacta or Kyprolis could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for Promacta and Kyprolis could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the product, as well as higher than expected total rebates, returns or discounts.

Revenue from sales of Captisol material to our collaborative partners represents a significant portion of our current revenue and our continued development and supply of Captisol is subject to a number of risks.

In January 2011, we completed our merger with CyDex. All of CyDex's products and product candidates, as well as the technology that it outlicenses, are based on Captisol. As a result, any setback that may occur with respect to Captisol could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for Captisol could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products using Captisol, as well as higher than expected total rebates, returns or discounts for such products.

If products or product candidates incorporating Captisol technology were to cause any unexpected adverse events, the perception of Captisol safety could be seriously harmed. If this were to occur, we may not be able to market Captisol products unless and until we are able to demonstrate that the adverse event was unrelated to Captisol, which we may not be able to do. Further, whether or not the adverse event was a result of Captisol, we could be required by the FDA to submit to additional regulatory reviews or approvals, including extensive safety testing or clinical testing of products using Captisol, which would be expensive and, even if we were to demonstrate that the adverse event was unrelated to Captisol, would delay our marketing of Captisol-enabled products and receipt of revenue related to those products, which could significantly impair our operating results and/or reduce the market price of our stock.

We obtain Captisol from a sole source supplier, and if this supplier were to cease to be able to supply Captisol to us, or decline to supply Captisol to us, we would be unable to continue to derive revenue or continue to develop our product candidates until we obtained an alternative source, which could take a considerable length of time. Our supplier of Captisol is Hovione, through its agent Hovione, LLC. If a major disaster were to happen at Hovione's facilities or Hovione were to suffer major production problems or were to fail to deliver Captisol to us for any other reason, there could be a significant interruption of our Captisol supply. A series of unusually large orders could rapidly deplete our inventory and cause significant problems with our licensees and disrupt our business. In addition, if we fail to meet certain of our obligations under our supply agreements, our customers could obtain the right to have Captisol manufactured by other suppliers, which would significantly harm our business.

We currently depend on our arrangements with our outlicensees to sell products using our Captisol technology. These agreements generally provide that outlicensees may terminate the agreements at will. If our outlicensees discontinue

sales of products using our Captisol technology, fail to obtain regulatory approval for products using our Captisol technology, fail to satisfy their obligations under their agreements with us, or choose to utilize a generic form of Captisol should it become available, or if we are unable to establish new licensing and marketing relationships, our financial results and growth prospects would be materially affected. We maintain inventory of Captisol, which has a five year shelf life, at three geographically spread storage locations in the US and Europe. If disasters were to strike one or all three of these locations, it could lead to supply interruptions. Further, under most of our Captisol outlicenses, the amount of royalties we receive will be reduced or will cease when the relevant patent expires. Our high purity patents, U.S. Patent Nos. 7,635,773 and 8,410,077 and foreign equivalents, are not expected to expire until 2029 and our morphology patents, U.S. Patent Nos. 7,629,331 and 8,049,003 and foreign equivalents, are not expected to expire until 2025, but the initially filed patents relating to Captisol expired starting in 2010 in the United States and will expire by 2016 in most countries outside the United States. If our other intellectual property rights

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are not sufficient to prevent a generic form of Captisol from coming to market and if in such case our outlicensees choose to terminate their agreements with us, our Captisol revenue may decrease significantly

The product candidates of our partners and us face significant development and regulatory hurdles prior to partnering and/or marketing which could delay or prevent licensing, sales and/or milestone revenue.

Before we or our partners obtain the approvals necessary to sell any of our unpartnered assets or partnered programs, we must show through preclinical studies and human testing that each potential product is safe and effective. We and/or our partners have a number of partnered programs and unpartnered assets moving toward or currently awaiting regulatory action. Failure to show any product's safety and effectiveness could delay or prevent regulatory approval of a product and could adversely affect our business. The drug development and 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 rates at which we complete our scientific studies and clinical trials depends on many factors, including, but are not limited to, our 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, the eligibility criteria for the trial and other potential drug candidates being studied. Delays in patient enrollment for our trials may result in increased costs and longer development times. In addition, our collaborative partners have rights to control product development and clinical programs for products developed under our 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, we or our collaborative partners still may not apply for FDA approval in a timely manner or the FDA still may not grant approval.

We rely heavily on collaborative relationships, and any disputes or litigation with our collaborative partners or termination or breach of any of the related agreements could reduce the financial resources available to us, including milestone payments and future royalty revenues.

Our strategy for developing and commercializing many of our potential products, including products aimed at larger markets, includes entering into collaboration agreements with corporate partners and others. These agreements give our collaborative partners significant discretion when deciding whether or not to pursue any development program. Our existing collaborations may not continue or be successful, and we may be unable to enter into future collaborative arrangements to develop and commercialize our unpartnered assets.

In addition, our collaborators may develop drugs, either alone or with others that compete with the types of drugs they are developing with us (or that we are developing on our own). This would result in increased competition for our or our partners' programs. If products are approved for marketing under our collaborative programs, revenues we receive will depend on the manufacturing, marketing and sales efforts of our collaborative partners, who generally retain commercialization rights under the collaborative agreements. Generally, our current collaborative partners also have the right to terminate their collaborations at will or under specified circumstances. If any of our collaborative partners breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully (for example, by not making required payments when due, or at all), our product development under these agreements will be delayed or terminated. Disputes or litigation may also arise with our collaborators (with us and/or with one or more third parties), including disputes or litigation over ownership rights to intellectual property, know-how or technologies

developed with our collaborators. Such disputes or litigation could adversely affect our rights to one or more of our product candidates. 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 our business.

Expirations of, challenges to or failure to secure patents and other proprietary rights may significantly hurt our business.

Any conflicts resulting from the patent rights of others could significantly reduce the coverage of our patents and limit our ability to obtain meaningful patent protection. We have had and will continue to have discussions with our current and potential collaborative partners regarding the scope and validity of our patents and other proprietary rights. If a collaborative partner or other party successfully establishes that our patent rights are invalid, we may not be able to continue our existing

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collaborations beyond their expiration. Any determination that our patent rights are invalid also could encourage our collaborative partners to seek early termination of our agreements. Such invalidation could adversely affect our ability to enter into new collaborations.

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

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

Generally, our success will depend on our ability and the ability of us and our licensors to obtain and maintain patents and proprietary rights for our 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. Our 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. We may not develop or obtain rights to products or processes that are patentable. Even if we do obtain patents, such patents may not adequately protect the technology we own or have licensed. In addition, others may challenge, seek to invalidate, infringe or circumvent any patents we own or license and rights we receive under those patents may not provide competitive advantages to us. For example, our European patent related to Agglomerated forms of Captisol was limited during an opposition proceeding and could be challenged further on appeal, and the rejection of our European patent application related to High Purity Captisol is currently being appealed.

We have obtained patent protection in the United States through 2025 on one or more Agglomerated forms of Captisol and through 2029 on one or more High Purity forms of Captisol. We also have filed patent applications covering the Captisol product that if issued, would not be set to expire until 2033 (for example, our patent WO 2013/130666, filed Feb. 27, 2013, contains composition of matter and use claims). There is no guarantee that our patents will be sufficient to prevent competitors from creating a generic form of Captisol and competing against us, or from developing combination patents for products that will prevent us from developing products using those APIs. In addition, most of the agreements in our Captisol outlicensing business, provide that once the relevant patent expires, the amount of royalties we receive will be reduced or eliminated.

Our collaborative partners may change their strategy or the focus of their development and commercialization efforts with respect to our partnered programs, and the success of our partnered programs could be adversely affected.

If our collaborative partners terminate their collaborations with us or do not commit sufficient resources to the development, manufacture, marketing or distribution of our partnered programs, we could be required to devote additional resources to our partnered programs, seek new collaborative partners or abandon such partnered programs, all of which could have an adverse effect on our business.

Third party intellectual property may prevent us or our partners from developing our potential products and we may owe a portion of any payments we receive from our collaborative partners to one or more third parties.

Our success will depend on our ability and the ability of our 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 our 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 our potential products or our collaborative partners' products or potential products may infringe the patent rights of others. This could impact Captisol, Promacta, Kyprolis, Avinza, Duavee, Viviant and Conbriza, Nexterone, and 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 our business. Others have filed patent applications and received patents that conflict with patents or patent applications we have licensed for our use, either by claiming the same methods or compounds or by claiming methods or compounds that could dominate those licensed to us. In addition, we may not be aware of all patents or patent applications that may impact our ability to make, use or sell any of our potential products. For example,

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U.S. 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.

Disagreements or litigation with our collaborative partners could delay our ability and the ability of our 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 our collaborative partners or by us. The occurrence of any of the foregoing problems could be time-consuming and expensive and could adversely affect our business.

Third parties have not directly threatened an action or claim against us, although we do periodically receive other communications or have other conversations with the owners of other patents or other intellectual property. If others obtain patents with conflicting claims, we may be required to obtain licenses to those patents or to develop or obtain alternative technology. We 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 us from pursuing the development or commercialization of our 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 our results of operations and financial condition. We 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 our financial position, liquidity and results of operations.

Although we have recently remediated a material weakness in our internal control over financial reporting, if we are unable to maintain the effectiveness of our internal controls, our financial results may not be accurately reported.

Management's assessment of the effectiveness of our internal control over financial reporting as of December 31, 2012 reported a material weakness in our internal control as a result of improper accounting for non-routine transactions and the controls over the determination of fair value of contingent liabilities, as described in our Annual Report on Form 10-K for the year ended December 31, 2012. We added a corporate controller to the finance and accounting staff to enhance our processes with the addition of a resource with the ability to research and understand the nuances of complex accounting standards. Additionally, we enhanced our controls over the determination of the fair value of contingent liabilities by including a formal review of mathematical calculations and completeness of such calculations. Although further and ongoing efforts will continue in 2014 and beyond to enhance our internal control over financial reporting, we believe that our remediation efforts now provide the foundation for compliance with the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework. As a result, our assessment of the effectiveness of our internal control over financial reporting as of December 31, 2013 no longer reports this material weakness or any other material weakness over financial reporting, and the audit report of our independent registered public accounting firm no longer expresses an adverse opinion on the effectiveness of our internal control over financial reporting as of December 31, 2013.

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

We may acquire companies, businesses and products that complement or augment our existing business. We 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 we predict. The diversion of our management's attention and any delay or difficulties encountered in connection with any future acquisitions we may consummate could result in the disruption of our

on-going business or inconsistencies in standards and controls that could negatively affect our ability to maintain third-party relationships. Moreover, we 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 our efforts to acquire companies, business or product candidates or to enter into other significant transactions, we conduct business, legal and financial due diligence with the goal of identifying and evaluating material risks involved in the transaction. Despite our efforts, we 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 we fail to realize the expected benefits from acquisitions we may consummate in the future or have consummated in the past, whether as a result of unidentified risks, integration difficulties, regulatory setbacks, litigation with current or former employees and other events, our business, results of operations and financial condition could be adversely affected. If we acquire product candidates, we will also need to make certain assumptions about, among other things, development costs, the likelihood of receiving regulatory approval and the

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market for such product candidates. Our assumptions may prove to be incorrect, which could cause us to fail to realize the anticipated benefits of these transactions.

In addition, we will likely experience significant charges to earnings in connection with our 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 our efforts. Even if our efforts are successful, we 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, or IPR&D, charges. In either case, the incurrence of these charges could adversely affect our results of operations for particular quarterly or annual periods.

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

If we are unable to hire and/or retain key employees, we may not have sufficient resources to successfully manage our assets or our business, and we may not be able to perform our obligations under various contracts and commitments. Furthermore, there can be no assurance that we will be able to retain all of our key management and scientific personnel. If we fail to retain such key employees, it could materially and adversely affect our business, financial condition, results of operations or the market price of our stock.

Aggregate revenues based on sales of our other products may not meet expectations.

Revenues based on sales of Avinza, Duavee, Conbriza and Nexterone may not meet expectations. Any setback that may occur with respect to these products could impair our operating results and/or reduce the market price of our stock. Setbacks for these products could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the product, as well as higher than expected total rebates, returns or discounts. These products also are or may become subject to generic competition). Any such setback could reduce our revenue.

If plaintiffs bring product liability lawsuits against us or our partners, we or our partners may incur substantial liabilities and may be required to limit commercialization of our approved products and product candidates, and we may be subject to other liabilities related to the sale of our prior commercial product lines.

We and our partners face an inherent risk of product liability as a result of the clinical testing of our product candidates in clinical trials and face an even greater risk for commercialized products. Although we are not currently a party to product liability litigation, if we are sued, we may be held liable if any product or product candidate we develop causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing or sale. Regardless of merit or eventual outcome, liability claims may result in decreased demand for any product candidates or products that we may develop, injury to our reputation, discontinuation of clinical trials, costs to defend litigation, substantial monetary awards to clinical trial participants or patients, loss of revenue and the inability to commercialize any products that we develop. We have product liability insurance that covers our clinical trials up to a \$5.0 million annual limit. If we are sued for any injury caused by our product candidates or any future products, our liability could exceed our total assets.

In addition, we agreed to indemnify Eisai and King Pharmaceuticals (now a subsidiary of Pfizer), under certain circumstances pursuant to the asset purchase agreements we entered into in connection with the sale of our prior commercial product lines. Some of our indemnification obligations still remain and our potential liability in certain circumstances is not limited to specific dollar amounts. We cannot predict the liabilities that may arise as a result of these matters. Any claims related to our indemnification obligations to Pfizer or Eisai could materially and adversely

affect our financial condition. In addition, Pfizer assumed our obligation to make payments to Organon based on net sales of Avinza (the fair value of which was \$11.7 million as of December 31, 2013). We remain liable to Organon in the event Pfizer defaults on this obligation. Any requirement to pay a material amount to Organon, could adversely affect our business and the price of our securities. The sale of our prior commercial product lines does not relieve us of exposure to product liability risks on products we sold prior to divesting these product lines. A successful product liability claim or series of claims brought against us may not be insured against and could result in payment of significant amounts of money and divert management's attention from our business.

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

We face intense competition in our development activities. Our competitors might succeed in obtaining regulatory approval for competitive products more rapidly than our partners can for our partnered programs. 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 us or our partners, which could impair our product development and render our technology obsolete.

If our business does not perform according to our expectations, we may not be able to pay off our existing debt or have sufficient resources to operate our business as currently contemplated.

Our operations have consumed substantial amounts of cash since inception. As of December 31, 2013, we had negative working capital of \$4.1 million. In connection with our 2011 acquisition of CyDex, we entered into a \$20.0 million Loan and Security Agreement, or the Loan Agreement, with a lender. The loan was amended in January 2012 to increase the secured credit facility to \$27.5 million. The original \$20.0 million borrowed under the facility bears interest at a fixed rate of 8.6%. The additional \$7.5 million bears interest at a fixed rate of 8.9%. Under the terms of the secured debt, we made interest only payments through February 2013. Subsequent to the interest-only payments, the note amortizes with principal and interest payments through the remaining term of the loan. Additionally, we must also make an additional final payment equal to 6% of the total amount borrowed which is due at maturity and is being accreted over the life of the loan. The maturity date of the term loan is August 1, 2014. In March 2013, we prepaid \$7.0 million of the secured term loan credit facility. Additionally, we paid a prepayment fee of 1% of the prepayment amount, or \$0.1 million, and a prorated final-payment fee of 6% of the final payment or \$0.4 million. As of December 31, 2013, the remaining principal balance of the note was \$9.1 million.

In October 2013, we filed a universal shelf registration statement with the SEC that was automatically declared effective due to our status as a well-known seasoned issuer. This registration statement provides additional financial flexibility for us to sell shares of common stock or other equity or debt securities as needed at any time, including through our at-the-market equity issuance program. During the year ended December 31, 2013, we did not issue any common shares through this at-the market equity issuance program.

Our cash and cash equivalents as of December 31, 2013 was \$11.6 million. We believe that our capital resources, including our currently available cash, cash equivalents, and short-term investments as well as our current and future royalty revenues, will be adequate to fund our operations, including the repayment of our term loan which matures on August 1, 2014, at their current levels at least for the next 12 months. However, changes may occur that would cause us to consume available capital resources before that time and we may need to complete additional equity or debt financings to fund our operations. Our inability to obtain additional financing could adversely affect our business. Financings may not be available at all or on terms favorable to us. In addition, these financings, if completed, may not meet our capital needs and could result in substantial dilution to our stockholders. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate one or more of our research or drug development programs. We may also be required to liquidate our business or file for bankruptcy protection. Alternatively, we may be forced to attempt to continue development by entering into arrangements with collaborative partners or others that require us to relinquish some or all of our rights to technologies or drug candidates that we would not otherwise relinquish.

Our ability to use our net operating losses, or NOLs, to offset taxes that would otherwise be due could be limited or lost entirely.

Our ability to use our NOLs to offset taxes that would otherwise be due is dependent upon our generation of future taxable income before the expiration dates of the NOLs, and we cannot predict with certainty whether we will be able to generate future taxable income. In addition, even if we generate taxable income, realization of our NOLs to offset taxes that would otherwise be due could be restricted by annual limitations on use of NOLs triggered by a past or future “ownership change” under Section 382 of the Internal Revenue Code and similar state provisions. An “ownership change” may occur when there is a 50% or greater change in total ownership of our company by one or more 5% shareholders within a three-year period. The loss of some or all of our NOLs could materially and adversely affect our business, financial condition and results of operations. In addition, California and certain states have suspended use of NOLs for certain taxable years, and other states may consider similar measures. As a result, we may incur higher state income tax expense in the future. Depending on our future tax position, continued suspension of our ability to use NOLs in states in which we are subject to income tax could have an adverse impact on our operating results and financial condition. The calculation of the amount of our net operating loss

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carryforwards may be changed as a result of a challenge by the IRS or other governmental authority or our learning of new information about the ownership of, and transactions in, our securities.

We use hazardous materials, which may expose us to significant liability.

In connection with our research and development activities, we handle hazardous materials, chemicals and various radioactive compounds. To properly dispose of these hazardous materials in compliance with environmental regulations, we are required to contract with third parties. We believe that we carry reasonably adequate insurance for toxic tort claims. However, we cannot eliminate the risk or predict the exposure of accidental contamination or injury from the handling and disposing of hazardous materials, whether by us or our third-party contractors. Any accident in the handling and disposing of hazardous materials may expose us to significant liability.

Our shareholder rights plan, concentration of ownership and charter documents may hinder or prevent change of control transactions.

Our shareholder rights plan and provisions contained in our certificate of incorporation and bylaws may discourage transactions involving an actual or potential change in our ownership. In addition, our Board of Directors may issue shares of common or preferred stock without any further action by the stockholders. Our directors and Biotechnology Value Fund, or BVF, own over 25% of our outstanding common stock as of December 31, 2013. BVF can increase its ownership level up to 24.99% under the terms of an agreement we have with BVF and BVF has agreed to vote 15% ownership in accordance with the Board's recommendations in the event that BVF exceeds a 19.99% ownership level. Such restrictions, circumstances and issuances may have the effect of delaying or preventing a change in our ownership. If changes in our ownership are discouraged, delayed or prevented, it would be more difficult for our current Board of Directors to be removed and replaced, even if you or our other stockholders believe that such actions are in the best interests of us and our stockholders.

Funding of our drug development programs may not result in future revenues.

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

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

Our results of operations could be materially negatively affected by economic conditions generally, both in the United States and elsewhere around the world. Continuing concerns over inflation, energy costs, geopolitical issues, the availability and cost of credit, and the U.S. financial markets have contributed to increased volatility and diminished expectations for the economy and the markets going forward. These factors, combined with volatile oil prices, declining business and consumer confidence and increased unemployment, have precipitated an economic recession and fears of a possible depression. Domestic and international equity markets continue to experience heightened volatility and turmoil. These events and the continuing market upheavals may have an adverse effect on us. In the

event of a continuing market downturn, our results of operations could be adversely affected by those factors in many ways, including making it more difficult for us to raise funds if necessary, and our stock price may further decline. We cannot provide assurance that our investments are not subject to adverse changes in market value. If our investments experience adverse changes in market value, we may have less capital to fund our operations.



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

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

Impairment charges pertaining to goodwill, identifiable intangible assets or other long-lived assets from our mergers and acquisitions could have an adverse impact on our results of operations and the market value of our common stock.

The total purchase price pertaining to our acquisitions in recent years of Pharmacoepia, Neurogen, Metabasis and CyDex have been allocated to 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, we will be required to incur material charges relating to the impairment. Any impairment charges could have a material adverse impact on our results of operations and the market value of our common stock.

The occurrence of a catastrophic disaster could damage our facilities beyond insurance limits or we could lose key data which could cause us to curtail or cease operations.

We are vulnerable to damage and/or loss of vital data from natural disasters, such as earthquakes, tornadoes, power loss, fire, floods and similar events, as well as from accidental loss or destruction. If any disaster were to occur, our ability to operate our business could be seriously impaired. We have property, liability, and business interruption insurance which may not be adequate to cover our losses resulting from disasters or other similar significant business interruptions, and we do not plan to purchase additional insurance to cover such losses due to the cost of obtaining such coverage. Any significant losses that are not recoverable under our insurance policies could seriously impair our business, financial condition and prospects.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We currently occupy premises consisting of approximately 16,500 square feet of office and laboratory space in San Diego, leased through June 2019 which serves as our corporate headquarters. We believe this facility is adequate to meet our space requirements for the foreseeable future.

We lease approximately 1,500 square feet of laboratory space located at the Bioscience and Technology Business Center in Lawrence, Kansas, leased through December 2014.

We lease approximately 99,000 square feet in three facilities in Cranbury, New Jersey under leases that expire in 2016. We also sublease approximately 19,473 square feet of these facilities with subleases expiring in 2014 through 2016. We fully vacated these facilities in September 2010.

We also lease a 52,800 square foot facility in San Diego that is leased through July 2015. In January 2008, we began subleasing the 52,800 square foot facility under a sublease agreement through July 2015. We fully vacated this facility in February 2008.



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## Item 3. Legal Proceedings

From time to time we are subject to various lawsuits and claims with respect to matters arising out of the normal course of our business. Due to the uncertainty of the ultimate outcome of these matters, the impact on future financial results is not subject to reasonable estimates.

## Securities Litigation

On June 8, 2012, a federal securities class action and shareholder derivative lawsuit was filed in the Eastern District of Pennsylvania against Genaera Corporation and its officers, directors, major shareholders and trustee ("Genaera Defendants") for allegedly breaching their fiduciary duties to Genaera shareholders. The lawsuit also names us and our Chief Executive Officer John Higgins as additional defendants for allegedly aiding and abetting the Genaera Defendants' various breaches of fiduciary duties based on our purchase of a licensing interest in a development-stage pharmaceutical drug program from the Genaera Liquidating Trust in May 2010 and its subsequent sale of half of its interest in the transaction to Biotechnology Value Fund, Inc.

Following an amendment to the complaint and a round of motions to dismiss, the Court dismissed the amended complaint with prejudice on August 12, 2013. On September 10, 2013, the plaintiffs filed a notice of appeal.

According to the Third Circuit's briefing schedule, the plaintiffs opening brief is currently due on or before February 18, 2014, our answering brief is due thirty days later, and the plaintiff's reply brief, if any, is due fourteen days after that. We intend to continue to vigorously defend against the claims against us and Mr. Higgins in the lawsuit. Due to the complex nature of the legal and factual issues involved, however, the outcome of this matter is not presently determinable.

## Item 4. Mine Safety Disclosures

Not applicable.

## PART II

## Item 5. Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

## Market Information

Our common stock is traded on the NASDAQ Global Market under the symbol "LGND."

The following table sets forth the high and low intraday sales prices for our common stock on the NASDAQ Global Market for the periods indicated:

	Price Range	
	High	Low
Year Ended December 31, 2013:		
1st Quarter	\$26.93	\$19.03
2nd Quarter	38.06	23.50
3rd Quarter	50.85	36.82
4th Quarter	58.48	43.20
Year Ended December 31, 2012:		
1st Quarter	\$18.74	\$11.44
2nd Quarter	17.27	11.21
3rd Quarter	19.85	15.80
4th Quarter	21.75	14.75

As of February 14, 2014, the closing price of our common stock on the NASDAQ Global Market was \$76.92.

## Holders

As of February 14, 2014, there were approximately 705 holders of record of the common stock.



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## Performance Graph

The graph below shows the five-year cumulative total stockholder return assuming the investment of \$100 and is based on the returns of the component companies weighted monthly according to their market capitalizations. The graph compares total stockholder returns of our common stock, of all companies traded on the NASDAQ Stock market, as represented by the NASDAQ Composite<sup>®</sup> Index, and of the NASDAQ Biotechnology Stock Index, as prepared by The NASDAQ Stock Market Inc. The NASDAQ Biotechnology Stock Index tracks approximately 122 domestic biotechnology stocks.

The stockholder return shown on the graph below is not necessarily indicative of future performance and we will not make or endorse any predictions as to future stockholder returns.

	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013	
Ligand	100	% 79	% 54	% 72	% 126	% 320	%
NASDAQ Market (U.S. Companies) Index	100	% 145	% 172	% 170	% 201	% 281	%
NASDAQ Biotechnology Stocks	100	% 116	% 134	% 150	% 198	% 329	%

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## Item 6. Selected Consolidated Financial Data

The following selected historical consolidated financial and other data are qualified by reference to, and should be read in conjunction with, our consolidated financial statements and the related notes thereto appearing elsewhere herein and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Our selected statement of operations data set forth below for each of the years ended December 31, 2013, 2012, 2011, 2010, and 2009, and the balance sheet data as of December 31, 2013, 2012, 2011, 2010, and 2009, are derived from our consolidated financial statements.

	Year Ended December 31,				
	(in thousands, except share data)				
	2013	2012	2011	2010	2009
Consolidated Statements of Operations Data:					
Royalties	\$23,584	\$14,073	\$9,213	\$7,279	\$8,334
Material sales	19,072	9,432	12,123	—	—
Collaborative research and development and other revenues	6,317	7,883	8,701	16,259	30,606
Total revenues	48,973	31,388	30,037	23,538	38,940
Cost of material sales	5,732	3,601	4,909	—	—
Research and development expenses	9,274	10,790	10,291	22,067	39,870
General and administrative expenses	17,984	15,782	14,583	12,829	15,211
Lease exit and termination costs	560	1,022	552	16,894	15,235
Write-off of acquired in-process research and development	480	—	2,282	2,754	442
Total operating costs and expenses	34,030	31,195	32,617	54,544	70,758
Accretion of deferred gain on sale leaseback	—	—	1,702	1,702	21,851
Income (loss) from operations	14,943	193	(878	) (29,304	) (9,967
Income (loss) from continuing operations	8,832	(2,674	) 9,712	(12,786	) (8,337
Discontinued operations (1)	2,588	2,147	3	2,413	6,389
Net income (loss)	11,420	(527	) 9,715	(10,373	) (1,948
Basic per share amounts:					
Income (loss) from continuing operations	\$0.43	\$(0.14	) \$0.49	\$(0.65	) \$(0.44
Discontinued operations (1)	0.13	0.11	—	0.12	0.34
Net income (loss)	\$0.56	\$(0.03	) \$0.49	\$(0.53	) \$(0.10
Weighted average number of common shares-basic	20,312,395	19,853,095	19,655,632	19,613,201	18,862,751
Diluted per share amounts:					
Income (loss) from continuing operations	\$0.43	\$(0.14	) \$0.49	\$(0.65	) \$(0.44
Discontinued operations (1)	0.12	0.11	—	0.12	0.34
Net income (loss)	\$0.55	\$(0.03	) \$0.49	\$(0.53	) \$(0.10
Weighted average number of common shares-diluted	20,745,454	19,853,095	19,713,320	19,613,201	18,862,751

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	December 31,				
	2013	2012	2011	2010	2009
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents, short-term investments and restricted cash and investments	\$17,320	\$15,148	\$18,382	\$24,038	\$54,694
Working capital	(4,058	)(11,616	)(11,413	) 3,531	15,994
Total assets	104,713	104,260	120,583	75,559	141,807
Current portion of deferred revenue, net	116	486	1,240	—	4,989
Current portion of deferred gain	—	—	—	1,702	1,702
Long-term obligations (excludes long-term portions of deferred revenue, net and deferred gain)	24,076	39,967	56,945	36,030	72,350
Long-term portion of deferred revenue, net	2,085	2,369	3,466	2,546	3,495
Long-term portion of deferred gain	—	—	—	—	1,702
Common stock subject to conditional redemption	—	—	8,344	8,344	8,344
Accumulated deficit	(671,339	)(682,759	)(682,232	)(691,947	)(681,574
Total stockholders' equity (deficit)	49,613	26,485	8,185	(4,849	) 3,744

We sold our Oncology product line (“Oncology”) on October 25, 2006 and we sold our Avinza product line (“Avinza”) (1) on February 26, 2007. The operating results for the Oncology and Avinza product lines have been presented in our consolidated statements of operations as “Discontinued Operations.”

#### Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Caution: This discussion and analysis may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed in "Item 1A. Risk Factors." This outlook represents our current judgment on the future direction of our business. These statements include those related to our Captisol related revenue, our Promacta, Kyprolis, and other product royalty revenues, product returns, and product development. Actual events or results may differ materially from our expectations. For example, there can be no assurance that our revenues or expenses will meet any expectations or follow any trends, that we will be able to retain our key employees or that we will be able to enter into any strategic partnerships or other transactions. We cannot assure you that we will receive expected Promacta, Kyprolis, Captisol and other product revenues to support our ongoing business or that our internal or partnered pipeline products will progress in their development, gain marketing approval or achieve success in the market. In addition, ongoing or future arbitration, or litigation or disputes with third parties may have a material adverse effect on us. Such risks and uncertainties, and others, could cause actual results to differ materially from any future performance suggested. We undertake no obligation to make any revisions to these forward-looking statements to reflect events or circumstances arising after the date of this annual report. This caution is made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended.

Our trademarks, trade names and service marks referenced herein include Ligand. Each other trademark, trade name or service mark appearing in this annual report belongs to its owner.

References to "Ligand Pharmaceuticals Incorporated," "Ligand," the "Company," "we" or "our" include our wholly owned subsidiaries—Ligand JVR, Allergan Ligand Retinoid Therapeutics, Seragen, Inc., Pharmacopeia, LLC, or Pharmacopeia, Neurogen Corporation, or Neurogen, CyDex Pharmaceuticals, Inc., or CyDex, Metabasis Therapeutics, or Metabasis, and Nexus Equity VI LLC.

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We are a biotechnology company that operates with a business model focused on developing or acquiring revenue generating assets and coupling them with a lean corporate cost structure. Our goal is to create a sustainably profitable business and generate meaningful value for our stockholders. Since a portion of our business model is based on the goal of partnering with other pharmaceutical companies to commercialize and market our assets, a significant amount of our revenue is based largely on payments made to us by partners for royalties, milestones and license fees. We recognized the important role of the drug reformulation segment in the pharmaceutical industry and in 2011 added Captisol to our technology portfolio. Captisol is a formulation technology that has enabled six FDA approved products, including Onyx's Kyprolis and Baxter International's Nexterone and is currently being developed in a number of clinical-stage partner programs. In comparison to our peers, we believe we have assembled one of the largest and most diversified asset portfolios in the industry with the potential to generate significant revenue in the future. The therapies in our development portfolio address the unmet medical needs of patients for a broad spectrum of diseases including hepatitis, muscle wasting, multiple myeloma, Alzheimer's disease, dyslipidemia, diabetes, anemia, epilepsy, FSGS and osteoporosis. We have established multiple alliances with the world's leading pharmaceutical companies including GlaxoSmithKline, Onyx Pharmaceuticals (a subsidiary of Amgen, Inc.), Merck, Pfizer, Baxter International, Lundbeck Inc., Eli Lilly and Co., and Spectrum Pharmaceuticals, Inc.

In December 2012, we received a milestone payment of 620,000 shares of common stock in partner Retrophin, Inc. or Retrophin. The milestone arose under the previously executed license agreement for the development and commercialization of Retrophin's lead clinical candidate, Sparsentan, and was triggered by the completion of Retrophin's merger with Desert Gateway, Inc. and its transition to a publicly traded company. We recorded milestone revenue of \$1.2 million, net of amounts owed to a third party. The fair value of the shares received was determined by an independent valuation firm. The shares issued to us represent approximately 3.4% and 6.9% of Retrophin's outstanding capital stock as of December 31, 2013 and 2012, respectively, and were subject to a one-year trading restriction which lifted in December 2013. Additionally, in early 2013 we received a \$1.4 million time based milestone payment from Retrophin and remitted \$0.2 million to former license holders under the terms of a previous license agreement for Sparsentan.

In March 2013, we entered into a License Agreement with Spectrum Pharmaceuticals, Inc. or Spectrum. Under the License Agreement, we granted to Spectrum an exclusive, nontransferable, worldwide license to such intellectual property rights that will enable Spectrum to develop and potentially commercialize Captisol-enabled propylene glycol-free melphalan. Contemporaneously with the entry into the license agreement, we entered into a supply agreement to provide Captisol to Spectrum. Under the Supply Agreement, Spectrum agreed to purchase its Captisol requirements for the development of the compound contemplated by the license agreement, as well as any Captisol required for any product that is successfully commercialized. In connection with this license we received a non-refundable license issuance fee of \$3 million. Additionally, we are entitled to milestone payments and royalties on future net sales of the Captisol-enabled melphalan product. This program is currently enrolling patients in a pivotal clinical trial.

In April 2013, we entered into a Royalty Stream and Milestone Payments Purchase Agreement with Selexis SA or Selexis, to acquire a portfolio of possible future royalty and milestone payment rights based on over 15 Selexis commercial license agreement programs with various pharmaceutical-company counterparties. In return, we paid Selexis an upfront payment of \$3.5 million, and expect to make an additional \$1 million cash payment on the first anniversary of the closing.

In May 2013, by virtue of ARES Trading SA (a unit of Merck KGaA) not having exercised its option to obtain a further related license from us, the Research License and Option Agreement we and ARES Trading SA had entered into in April 2012 terminated in accordance with its terms, and the rights to an anti-inflammatory discovery research program that we had licensed to ARES Trading SA under this agreement reverted to us.

In May 2013, our partner Melinta Therapeutics, Inc. (formerly Rib-X) announced the initiation of a Phase 3 clinical trial of Captisol-enabled intravenous formulation of delafloxacin for the first-line treatment of acute bacterial skin and skin structure infections (ABSSSI), including infections caused by MRSA. Under the terms of a license and supply



agreement, we earned a \$0.5 million milestone payment.

In July 2013, we entered into a global license agreement with Azure Biotech for the development of a novel formulation of lasofoxifene. Under the terms of the agreement, we are entitled to receive \$2.6 million in potential development and regulatory milestones and a 5% royalty on future net sales. Under this agreement, we retain the rights to the oral formulation originally developed by Pfizer. Additionally, in July 2013, we entered into a license agreement with Ethicor Pharma Ltd. for the manufacture and distribution of the oral formulation of lasofoxifene in the European Economic Area, Switzerland and the Indian Subcontinent. Under the terms of the agreement, we are entitled to receive potential sales milestones of up to \$16 million and a royalty of 25% on future net sales.

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In July 2013, the FDA granted orphan-drug designation for our proprietary Captisol-enabled Topiramate Injection for the treatment of partial onset or primary generalized tonic-clonic seizures in hospitalized epilepsy patients who are unable to take oral topiramate. In August 2013, we entered a global license agreement with CURx Pharmaceuticals, Inc. for the development and commercialization of Topiramate and earned a milestone payment of \$0.2 million for the orphan-drug designation.

In July 2013, we and The Medicines Company, or MedCo, mutually terminated the License Agreement dated June 1, 2011 and the related Supply Agreement dated June 1, 2011. These agreements were with our subsidiary CyDex and related to the development of Captisol-enabled intravenous Clopidogrel. Upon termination, the licensed rights relating to the compound were returned to us. MedCo recently conducted a pharmacokinetic and pharmacodynamic study of oral Clopidogrel and Captisol-enabled intravenous Clopidogrel in healthy volunteers. The study indicated a potential difference in metabolism between the oral and intravenous routes of administration for Clopidogrel, and MedCo elected not to proceed with further development.

In July 2013, Merck notified us that it has discontinued clinical development of dinaciclib for chronic lymphocytic leukemia.

In August 2013, we entered a Commercial License Agreement with Sage Therapeutics Inc. This agreement replaces a prior agreement between Sage Therapeutics and our subsidiary CyDex. In October 2011, Sage originally obtained an exclusive right to use Captisol® in SAGE's development and commercialization of therapeutic drugs formulating certain allosteric receptor modulators with Captisol against identified central nervous system disorders. Sage exercised certain product commercialization options in December 2012 and then replaced that agreement with the Commercial License Agreement in August 2013. Upon commercialization, we could potentially receive milestone payments of \$4.5 million for Captisol-enabled programs, plus royalties of 3% on net sales for products that use the Captisol technology. Additionally, we could receive commercial revenue from the shipment of Captisol to Sage for clinical and commercial activities.

In October 2013, our partner, Pfizer received approval from the FDA for Duavee, for the treatment of moderate-to-severe vasomotor symptoms (VMS) associated with menopause and the prevention of postmenopausal osteoporosis. We earned a \$0.4 million milestone payment for the approval.

In October 2013, the FDA accepted our Investigational New Drug, or IND, application for our proprietary Glucagon receptor antagonist product (LGD-6972) candidate for the treatment of diabetes. LGD-6972 was acquired in connection with our acquisition of Metabasis and we may be required to remit payment to the contingent value right, or CVR, holders upon the sale or partnering of the asset. We initiated a Phase 1 clinical trial in the fourth quarter of 2013.

In November 2013, our partner, Merck submitted an NDA for Captisol-enabled Noxafil-IV. Merck is currently conducting a pivotal study for this program and it filed a 505(b)(2) application in 2013 for approval in the United States and European Union to market its Captisol program. In the United States, the New Drug Application, or NDA, for Noxafil-IV was filed and received FDA Priority Review in November 2013. We earned a \$0.2 million milestone for submission of the NDA.

## Results of Operations

Total revenues for 2013 were \$49.0 million compared to \$31.4 million in 2012 and \$30.0 million in 2011. Our income from continuing operations for 2013 was \$8.8 million or \$0.43 per diluted share, compared to a loss from continuing operations of \$2.7 million in 2012, or \$0.14 per diluted share, and income from continuing operations of \$9.7 million, or \$0.49 per diluted share, in 2011.

## Royalty Revenue

Royalty revenues were \$23.6 million in 2013, compared to \$14.1 million in 2012 and \$9.2 million in 2011. The increase in royalty revenue of \$9.5 million and \$4.9 million for the year ended December 31, 2013 and 2012, respectively is primarily due to an increase in Promacta and Kyprolis royalties.

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## Material Sales

We recorded material sales of Captisol of \$19.1 million in 2013 compared to \$9.4 million in 2012 and \$12.1 million in 2011. The increase in material sales of \$9.7 million for the year ended December 31, 2013 compared to 2012 is due to timing of customer purchases of Captisol as well as an increase in customer purchases for use in clinical trials which has a higher gross margin. The decrease in material sales of \$2.7 million for the year ended December 31, 2012 compared to 2011 is due to timing of customer purchases of Captisol.

## Collaborative Research and Development and Other Revenue

We recorded collaborative research and development and other revenues of \$6.3 million in 2013 compared to \$7.9 million in 2012 and \$8.7 million in 2011. The decrease of \$1.6 million for the year ended December 31, 2013, compared to the same period in 2012 is due to timing of achievement of certain regulatory milestones and licensing payments for the year ended December 31, 2013 compared with the same period in 2012. The decrease in collaborative research and development and other revenue of \$0.8 million for the year ended December 31, 2012, compared to 2011 is primarily due to the recognition of \$1.3 million of deferred revenue related to the previous sale of royalty rights for the year ended December 31, 2011, partially offset by an increase in license fees and milestones of \$0.5 million for the year ended December 31, 2012.

## Cost of material sales

Cost of sales were \$5.7 million in 2013 compared to \$3.6 million in 2012 and \$4.9 million in 2011. The increase of \$2.1 million for the year ended December 31, 2013, compared to the same period in 2012 is due to timing of customer purchases of Captisol as well as an increase in purchases for use in clinical trials. The decrease of \$1.3 million, for the year ended December 31, 2012, compared to 2011 is due to the decrease in material sales of Captisol.

## Research and Development Expenses

Research and development expenses for 2013 were \$9.3 million compared to \$10.8 million in 2012 and \$10.3 million in 2011. The decrease of \$1.5 million is primarily due to the timing of costs associated with internal programs. The increase in research and development expenses of \$0.5 million for the year ended December 31, 2012 compared to 2011 is primarily due to timing of costs associated with internal programs.

As summarized in the table below, we are developing several proprietary products for a variety of indications. Our programs are not limited to the following, but are representative of a range of future licensing opportunities to expand our partnered asset portfolio.

Program	Disease/Indication	Development Phase
HepDirect	Liver Diseases	Preclinical
Oral Human Granulocyte Colony Stimulating Factor	Neutropenia	Preclinical
IRAK-4	Inflammation	Preclinical
Glucagon Receptor Antagonist	Diabetes	Phase 1
Selective Androgen Receptor Modulator	Various	Phase 2-ready
Captisol-Enabled Clopidogrel	Anti-coagulant	Phase 3

We do not provide forward-looking estimates of costs and time to complete our ongoing research and development projects as such estimates would involve a high degree of uncertainty. Uncertainties include our inability to predict the outcome of complex research, our inability to predict the results of clinical studies, regulatory requirements placed

upon us by regulatory authorities such as the FDA and EMA, our inability to predict the decisions of our collaborative partners, our ability to fund research and development programs, competition from other entities of which we may become aware in future periods, predictions of market potential from products that may be derived from our research and development efforts, and our ability to recruit and retain personnel or third-party research organizations with the necessary knowledge and skills to perform certain research. Refer to “Item 1A. Risk Factors” for additional discussion of the uncertainties surrounding our research and development initiatives.

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### General and Administrative Expenses

General and administrative expenses were \$18.0 million for the year ended December 31, 2013 compared to \$15.8 million for 2012 and \$14.6 million for 2011. The increase in general and administrative expenses for the year ended December 31, 2013 compared with 2012 of \$2.2 million is primarily due to an increase in non-cash stock-based compensation and patent and other legal expenses in 2013. The increase in expenses for the year ended December 31, 2012 compared with 2011 is primarily due to an increase in tax consulting project-related expenses and legal expenses compared to the prior year.

### Lease Exit and Termination Costs

For the years ended December 31, 2013 and 2012, we had lease exit obligations of \$5.9 million and \$9.0 million, respectively. The lease exit obligations are related to facilities in San Diego, California and Cranbury, New Jersey. The San Diego facility is under an operating lease through July 2015. We fully vacated this facility in February 2008 and sublet it through the term of our lease. Additionally, we ceased use of our facility located in Cranbury, New Jersey in September 2010. The remaining lease obligations run through August 2016, a portion of which is subleased with subleases expiring between August 2014 and 2016. We recorded lease exit and termination costs of \$0.6 million for the year ended December 31, 2013, compared to \$1.0 million for 2012, and \$0.6 million in 2011. Lease exit and termination costs for the years ended December 31, 2013, 2012, and 2011 consisted of accretion costs and adjustments to the liability for lease exit costs due to changes in leasing assumptions.

### Write-off of in-process research and development

For the year ended December 31, 2013, we recorded a non-cash impairment charge of \$0.5 million for the write-off of in-process research and development for Captisol-enabled intravenous Clopidogrel. Captisol-enabled intravenous Clopidogrel is an intravenous formulation of the anti-platelet medication designed for situations where the administration of oral platelet inhibitors is not feasible or desirable. For the year ended December 31, 2012, there was no write-off of in-process research and development recorded. In 2011, we recorded a non-cash impairment charge of \$1.1 million for the write-off of intellectual property and interests in future milestones and royalties for MEDI-528, an IL-9 antibody program by AstraZeneca's subsidiary, MedImmune. The asset was impaired upon receipt of notice from MedImmune that it was exercising its right to terminate the collaboration and license agreement. Additionally, in 2011, we recorded a non-cash impairment charge of \$1.2 million for the write-off of interests in future milestones for TRPV1, a collaborative research and licensing program between us and Merck, related to the physiology, pharmacology, chemistry and potential therapeutic applications and potential clinical utilities related to Vanilloid Receptors, subtype 1. The asset was impaired upon receipt of notice from Merck in October 2011 that it was exercising its right to terminate the collaboration and license agreement.

### Accretion of Deferred Gain on Sale Leaseback

In 2006, we entered into an agreement for the sale of our real property located in San Diego, California for a purchase price of \$47.6 million. This property, with a net book value of \$14.5 million, included one building totaling approximately 82,500 square feet, the land on which the building is situated, and two adjacent vacant lots. As part of the sale transaction, we agreed to lease back the building for a period of 15 years. We recognized an immediate pre-tax gain on the sale transaction of \$3.1 million in 2006 and deferred a gain of \$29.5 million on the sale of the building. The deferred gain was being recognized as an offset to operating expense on a straight-line basis over the 15 year term of the lease at a rate of approximately \$2.0 million per year. In 2009, we entered into a lease termination agreement for this building. As a result, we recognized an additional \$20.4 million of accretion of deferred gain during the quarter ended September 30, 2009, and recognized the remaining balance of the deferred gain of \$3.1 million through the term of our new building lease, which expired in December 2011. The amount of the deferred gain

recognized for the year ended December 31, 2011 was \$1.7 million. The deferred gain was fully amortized as of December 31, 2011.

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### Interest expense, net

Interest expense was \$2.1 million for the year ended December 31, 2013 compared to \$2.9 million in 2012 and \$2.3 million in 2011. The decrease in interest expense of \$0.8 million for the year ended December 31, 2013 compared with 2012 is due to a lower principal balance related to our \$7.0 million prepayment of principal in March 2013 as well as scheduled principal amortization from March 2013 through December 2013. The increase in interest expense for the year ended December 31, 2012 compared to 2011 was due to the increase in the outstanding balance of notes payable at December 31, 2012 compared to 2011. Additionally, the \$20 million loan obtained to acquire CyDex in January 2011 was outstanding for a partial period for the year ended December 31, 2011.

### Change in Contingent Liabilities

We recorded an increase in contingent liabilities of \$3.6 million for the year ended December 31, 2013 compared to \$1.7 million in 2012 and \$1.0 million in 2011. The increase in contingent liabilities for the year ended December 31, 2013 is due primarily to the increase in the Metabasis CVR liability of \$4.2 million. The Metabasis CVR liability is marked-to-market at each reporting period based upon the quoted market prices of the underlying CVR. This was partially offset by a decrease of \$0.6 million in CyDex contingent liabilities, primarily due to a decrease in amounts potentially due to CyDex CVR holders and former license holders related to Captisol-enabled Clopidogrel, partially offset by an increase in the revenue-sharing CVR liability to former CyDex shareholders. The increase in contingent liabilities for the year ended December 31, 2012 is due to increases in amounts owed to CyDex CVR holders and former license holders of \$3.4 million, partially offset by decreases in amounts owed to Metabasis and Neurogen shareholders of \$1.1 million and \$0.7 million, respectively. The increase in contingent liabilities for the year ended December 31, 2011 is due to an increase in amounts potentially due to Metabasis shareholders of \$1.1 million, partially offset by a decrease in amounts owed to CyDex CVR holders and former license holders of \$0.1 million.

### Other, net

We recorded other expense of \$0.1 million for the year ended December 31, 2013 compared to other income of \$0.5 million in 2012 and \$0.6 million in 2011. Other expense for 2013 is primarily due to an increase in amounts owed to sublicensees, partially offset by changes in certain liabilities. Other income for 2012 is primarily due to changes in certain liabilities. Other income for 2011 primarily relates to income related to the gain on the sale of property and equipment and decreases in certain liabilities.

### Income Taxes

We recorded income tax expense from continuing operations of \$0.4 million for the year ended December 31, 2013 compared to an income tax benefit from continuing operations of \$1.2 million for the year ended December 31, 2012 and an income tax benefit of \$13.3 million for the year ended December 31, 2011. The income tax expense recognized in 2013 is primarily attributable to deferred taxes associated with the amortization of acquired IPR&D assets for tax purposes. The income tax benefit in 2012 is principally due to a requirement under Accounting Standards Codification ("ASC"), 740, Accounting for Income Taxes, that a Company to consider all sources of income in order to determine the tax benefit resulting from a loss from continuing operations. As a result of the requirement under ASC 740-20-45-7, the pretax income which we generated from discontinued operations was a source of income which resulted in the partial realization of the current year loss from continuing operations. Thus, we recorded an approximate \$1.5 million tax benefit to continuing operations and an offsetting \$1.5 million charge to discontinued operations. In addition, we realized a tax benefit as a result of California voters approving legislation in November 2012 which required a single sales factor income apportionment methodology beginning in 2013 and resulted in a decrease in our future California deferred income tax obligations. The income tax benefit in 2011 was principally the result of net deferred tax liabilities recorded in connection with our acquisition of Cydex. The net



deferred tax liabilities assumed in the Cydex acquisition became a future source of income to support the realization of deferred tax assets and resulted in the release of a portion of our valuation allowance against deferred tax assets.

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### Discontinued Operations, net

#### Avinza Product Line

On September 6, 2006, we and King Pharmaceuticals, now a subsidiary of Pfizer, entered into a purchase agreement, or the Avinza Purchase Agreement, pursuant to which Pfizer acquired all of our rights in and to Avinza in the United States, its territories and Canada, including, among other things, all Avinza inventory, records and related intellectual property, and to assume certain liabilities as set forth in the Avinza Purchase Agreement.

Pursuant to the terms of the Avinza Purchase Agreement, we retained the liability for returns of product from wholesalers that had been sold by us prior to the close of this transaction. Accordingly, as part of the accounting for the gain on the sale of Avinza, we recorded a reserve for Avinza product returns. For the years ended December 31, 2013, 2012, and 2011, we recognized pre-tax gains of \$2.6 million, \$3.7 million and \$0, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date.

#### Income tax expense on discontinued operations

In 2012, we recorded income tax expense on discontinued operations of \$1.5 million (please see the discussion on income taxes above). There was no income tax expense on discontinued operations for the years ended December 31, 2013 and 2011.

#### Liquidity and Capital Resources

We have financed our operations through offerings of our equity securities, borrowings from long-term debt, issuance of convertible notes, product sales and the subsequent sales of our commercial assets, royalties, collaborative research and development and other revenues, capital and operating lease transactions.

We have incurred significant losses since inception. At December 31, 2013, our accumulated deficit was \$671.3 million and we had negative working capital of \$4.1 million. We believe that cash flows from operations will improve due to consistent Captisol sales, an increase in royalty revenues driven primarily from continued increases in Promacta and Kyprolis sales, recent product approvals and regulatory developments, as well as anticipated new license and milestone revenues. In the event revenues and operating cash flows do not meet expectations, management plans to reduce discretionary expenses. However, it is possible that we may be required to seek additional financing. There can be no assurance that additional financing will be available on terms acceptable to management, or at all. We believe our available cash, cash equivalents, and short-term investments as well as our current and future royalty, license and milestone revenues will be sufficient to satisfy our anticipated operating and capital requirements, through at least the next twelve months. Our future operating and capital requirements will depend on many factors, including, but not limited to: the pace of scientific progress in our research and development programs; the potential success of these programs; the scope and results of preclinical testing and clinical trials; the time and costs involved in obtaining regulatory approvals; the costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims; competing technological and market developments; the amount of royalties on sales of the commercial products of our partners; the efforts of our collaborative partners; obligations under our operating lease agreements; and the capital requirements of any companies we acquire, including Pharmacoepia, Neurogen, Metabasis and CyDex. We believe that the actions presently being taken to generate sufficient operating cash flow provide the opportunity for us to continue as a going concern. While we believe in the viability of our strategy to generate sufficient operating cash flow and in our ability to raise additional funds, there can be no assurances to that effect. Our ability to achieve our operational targets is dependent upon our ability to further implement our business plan and generate sufficient operating cash flow.

In January 2011, we entered into a \$20 million secured term loan credit facility with Oxford Financial Group. The loan was amended in January 2012 to increase the secured credit facility to \$27.5 million. The original \$20 million

borrowed under the facility bears interest at a fixed rate of 8.6%. The additional \$7.5 million bears interest at a fixed rate of 8.9%. Under the terms of the secured debt, we made interest-only payments through February 2013. Subsequent to the interest-only payments, the note amortizes with principal and interest payments through the remaining term of the loan. Additionally, we must also make an additional final payment equal to 6% of the total amount borrowed which is due at maturity and is being accreted over the life of the loan. The maturity date of the term loan is August 1, 2014.

In March 2013, we prepaid \$7.0 million of the secured term loan credit facility. Additionally, we paid a prepayment fee of 1% of the prepayment amount, or \$0.1 million and a prorated final-payment fee of 6% of the final payment, or \$0.4 million. As of December 31, 2013, the remaining principal balance of the note was \$9.1 million.

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In October 2013, we filed a universal shelf registration statement with the SEC that was automatically declared effective due to our status as a well-known seasoned issuer. This registration statement provides additional financial flexibility for us to sell shares of common stock or other equity or debt securities as needed at any time, including through our at-the-market equity issuance program. During the year ended December 31, 2013, we did not issue any common shares through this at-the market equity issuance program.

In connection with the acquisition of CyDex on January 24, 2011, we issued a series of CVR agreements and assumed certain contractual obligations. We paid the CVR holders \$4.3 million in January 2012 and may be required to pay additional amounts upon achievement of certain clinical and regulatory milestones to the CyDex CVR holders and former license holders. In 2011, \$0.9 million was paid to the CyDex shareholders upon completion of a licensing agreement with MedCo for the Captisol enabled intravenous formulation of Clopidogrel. An additional \$2 million was paid to the CyDex shareholders upon acceptance by the FDA of the New Drug Application submitted by Onyx and an additional \$3.5 million was paid upon approval by the FDA of Kyprolis for the potential treatment of patients with relapsed and refractory multiple myeloma. In addition, we agreed to pay CyDex shareholders, for each respective year from 2011 through 2016, (i) 20% of all CyDex-related revenue, but only to the extent that and beginning only when CyDex-related revenue for such year exceeds \$15.0 million, plus (ii) an additional 10% of all CyDex-related revenue recognized during such year, but only to the extent that and beginning only when aggregate CyDex-related revenue for such year exceeds \$35.0 million. We paid \$0.3 million to the CyDex shareholders in March 2012 for 20% of all 2011 CyDex-related revenue in excess of \$15 million. For the year ended December 31, 2012, CyDex related revenue did not exceed \$15 million. The revenue sharing payment for the year ended December 31, 2013 was \$2.5 million, \$0.9 million of which was paid during 2013.

We are also required by the CyDex CVR Agreement to dedicate at least five experienced full-time employee equivalents per year to the acquired business and to invest at least \$1.5 million per year, inclusive of such employee expenses, in the acquired business, through 2015. We have exceeded our commitment for the year ending December 31, 2013.

### Operating Activities

Operating activities provided cash of \$20.7 million and \$0.2 million in 2013 and 2012, respectively and used cash of \$1.2 million in 2011.

The cash provided in 2013 reflects net income of \$11.4 million, adjusted by \$2.6 million of gain from discontinued operations and \$13.2 million of non-cash items to reconcile the net income to net cash used in operations. These reconciling items primarily reflect a non-cash change in estimated value of contingent liabilities of \$3.6 million, depreciation and amortization of \$2.7 million, stock-based compensation of \$5.7 million, write-off of in-process research and development \$0.5 million, accretion of notes payable of \$0.4 million, and net deferred tax assets and liabilities of \$0.4 million. The cash provided by operations in 2013 is further impacted by changes in operating assets and liabilities due primarily to a decrease in accounts receivable of \$2.4 million, a decrease in inventory of \$0.6 million, and a decrease in other assets of \$0.1 million. Partially offsetting this, accounts payable and accrued liabilities decreased \$2.8 million, other liabilities decreased \$0.4 million and deferred revenue decreased \$0.7 million. Net cash used in operating activities of discontinued operations was \$0.6 million in 2013.

The cash provided in 2012 reflects a net loss of \$0.5 million, adjusted by \$2.1 million of gain from discontinued operations and \$6.5 million of non-cash items to reconcile the net income to net cash used in operations. These reconciling items primarily reflect a non-cash change in estimated value of contingent liabilities of \$1.7 million, depreciation and amortization of \$2.7 million, stock-based compensation of \$4.1 million and other changes of \$0.5 million, partially offset by an increase in net deferred tax assets and liabilities of \$1.2 million, and receipt of a non-cash milestone of \$1.2 million. The cash provided by operations in 2012 is further impacted by changes in operating assets and liabilities due primarily to a decrease in accounts receivable of \$1.5 million, a decrease in inventory of \$1.0 million, a decrease in other current assets of \$0.5 million, a decrease in other long term assets of \$0.3 million, and an increase in other liabilities of \$0.5 million. Partially offsetting this, accounts payable and accrued liabilities decreased \$4.8 million and deferred revenue decreased \$1.9 million. Net cash used in operating activities of

discontinued operations was \$0.9 million in 2012.

The use of cash in 2011 reflects net income of \$9.7 million, adjusted by \$5.0 million of non-cash items to reconcile the net income to net cash used in operations. These reconciling items primarily reflect deferred income taxes of \$13.4 million, accretion of deferred gain on sale leaseback transaction of \$1.7 million and a gain on asset write-offs of \$0.5 million, partially offset by a non-cash change in estimated value of contingent liabilities of \$1.9 million, a write-off of acquired in-process research and development of \$2.3 million, depreciation and amortization of \$2.8 million, and stock-based compensation of \$3.4 million. The use of cash in 2011 is further impacted by changes in operating assets and liabilities due primarily to an increase in accounts receivable of \$3.9 million and a decrease in accounts payable and accrued liabilities of \$11.6 million, partially offset by an increase in other current assets of \$5.5 million, an increase in inventory of \$1.1 million, a decrease in deferred revenue of

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\$2.2 million, and a decrease in other liabilities of \$0.9 million. None of the cash used in operating activities for 2011 related to discontinued operations.

### Investing Activities

Investing activities used cash of \$5.0 million in 2013, provided by cash of \$1.3 million in 2012, and used cash of \$25.2 million in 2011.

Cash used by investing activities in 2013 primarily reflects the purchase of commercial license rights of \$3.6 million, payments to CyDex CVR holders of \$1.0 million, and purchases of property, building and equipment of \$0.4 million. None of the cash provided by investing activities for 2013 related to discontinued operations.

Cash used by investing activities in 2012 primarily reflects payments to CyDex CVR holders of \$8.0 million and purchases of property, building and equipment of \$0.6 million, partially offset by proceeds from the sale of short-term investments of \$10.0 million. None of the cash provided by investing activities for 2012 related to discontinued operations.

Cash used by investing activities in 2011 primarily reflects cash used for the acquisition of CyDex of \$32.0 million, payments made to CyDex CVR holders of \$2.9 million, and purchases of short term investments of \$10.0 million, partially offset by proceeds from the sale of short-term investments of \$19.3 million and proceeds from the sale of property and equipment of \$0.5 million. None of the cash provided by investing activities for 2011 related to discontinued operations.

### Financing Activities

Financing activities used cash of \$16.5 million in 2013 and provided cash of \$3.9 million in 2012 and \$30.0 million in 2011.

Cash used in financing activities in 2013 primarily reflects the repayment of debt of \$19.6 million, partially offset by proceeds of \$3.1 million received from stock option exercises and purchases under the employee stock purchase plan.

Cash provided by financing activities in 2012 primarily reflects proceeds from issuance of debt of \$7.5 million and proceeds from issuance of shares of \$6.4 million, partially offset by repayment of debt of \$10 million. None of the cash used in financing activities for 2012 related to discontinued operations.

Cash provided by financing activities in 2011 primarily reflects \$30.0 million of proceeds from the issuance of debt, partially offset by share repurchases of \$0.1 million. None of the cash used in financing activities for 2011 related to discontinued operations.

### Contingent liabilities

#### Pharmacoepia

In connection with the acquisition of Pharmacoepia in December 2008, Pharmacoepia security holders received a CVR that entitled them to an aggregate cash payment of \$15.0 million under certain circumstances. The CVR expired on December 31, 2011.

#### Neurogen

In connection with the acquisition of Neurogen in December 2009, Neurogen security holders received CVRs under four CVR agreements. The CVRs entitle Neurogen shareholders to cash payments upon the sale or licensing of certain assets and upon the achievement of a specified clinical milestone. The fair value of the Neurogen CVRs at December 31, 2011 was \$0.7 million and related to programs for H3 and VR1. In 2012, we received a notice from a collaborative partner that it was terminating its agreement related to VR1 for convenience and we recorded a decrease in the fair value of the liability for the related CVR of \$0.2 million. Additionally, per the CVR agreement, no payment event date related to the H3 asset can occur after December 23, 2012 and we recorded a decrease in the fair value of the liability for the related CVR of \$0.5 million as of that date. There are no remaining CVR obligations under the agreement with the former Neurogen shareholders.

#### Metabasis

In January 2010, we completed our acquisition of Metabasis. In addition to cash consideration, we issued four tradable CVRs, one CVR from each of four respective series of CVRs, for each Metabasis share. The CVRs will entitle the holder to cash payments as frequently as every six months as cash is received by us from the sale or partnering of any of the Metabasis drug development programs, among other triggering events. Additionally, there were spending requirement obligations related



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to development funding on the Metabasis programs which have been fulfilled. The fair value of the liability at December 31, 2013, 2012 and 2011 was \$4.2 million, \$0, and \$1.1 million, respectively.

In January 2011, we granted licenses to Chiva to begin immediate development in China of two clinical-stage HepDirect programs, Pradefovir for hepatitis B and MB01733 for hepatocellular carcinoma. Additionally, we granted Chiva a non-exclusive HepDirect technology license for the discovery, development and worldwide commercialization of new compounds in hepatitis B (HepB), hepatitis C (HepC) and hepatocellular carcinoma (HCC). Under the terms of the agreement, we are entitled to milestones and royalties on potential sales. In addition, we are entitled to receive a portion of any sublicensing revenue generated from sublicensing of collaboration compounds to third parties in a major world market. We received a \$0.5 million license payment in March 2011, of which \$0.1 million was remitted to CVR holders. In August 2011, we entered into an amendment to the license agreement which required that a second \$0.5 million licensing fee be paid in September 2011. In addition, the amendment increased royalty rates which we may receive under the license agreement to 6% of net sales of products (other than Pradefovir) and 9% of net sales for Pradefovir. In addition, the amendment removed from the license agreement a provision that afforded us the potential to earn a 10% equity position in Chiva as a milestone payment. In September 2011, Chiva paid us the \$0.5 million licensing fee called for by the amendment, of which \$0.1 million was remitted to CVR holders.

## CyDex

In connection with the acquisition of CyDex on January 24, 2011, we issued a series of CVRs and also assumed certain contingent liabilities. In 2011, \$0.9 million was paid to the CyDex shareholders upon completion of a licensing agreement with MedCo for the Captisol enabled intravenous formulation of Clopidogrel. An additional \$2.0 million was paid to the CyDex shareholders upon acceptance by the FDA of Onyx's NDA, \$4.3 million was paid in January 2012 under the terms of the agreement, and an additional \$3.5 million was paid upon approval by the FDA of Kyprolis for the potential treatment of patients with relapsed and refractory multiple myeloma. We recorded a cash payment of \$0.1 million for the Topiramate orphan drug designation milestone to former license holders. We may be required to make additional payments upon achievement of certain clinical and regulatory milestones to the CyDex shareholders and former license holders. In addition, we will pay CyDex shareholders, for each respective year from 2014 through 2016, (i) 20% of all CyDex-related revenue, but only to the extent that and beginning only when CyDex-related revenue for such year exceed \$15.0 million, (ii) plus an additional 10% of all CyDex-related revenue recognized during such year, but only to the extent that and beginning only when aggregate CyDex-related revenue for such year exceeds \$35.0 million. We paid \$0.2 million to the CyDex shareholders in March 2012 related to 2011 CyDex-related revenue. There was no revenue sharing payment for 2012. The revenue sharing payment for 2013 was \$2.5 million, \$0.9 million of which was paid during the year ended December 31, 2013. The estimated fair value of the contingent liabilities recorded as part of the CyDex acquisition at December 31, 2013, 2012, and 2011 was \$9.3 million, \$10.9 million and \$15.5 million, respectively.

## Leases and Off-Balance Sheet Arrangements

We lease our office and research facilities under operating lease arrangements with varying terms through November 2019. The agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases ranging from 3.0% to 3.5%. We also sublease a portion of our facilities through leases which expire between 2014 and 2016. The sublease agreements provide for a 3% increase in annual rents. We had no off-balance sheet arrangements at December 31, 2013 and 2012.



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## Contractual Obligations

As of December 31, 2013, future minimum payments due under our contractual obligations are as follows (in thousands):

	Payments Due by Period				
	Total	Less than 1 year	2-3 years	4-5 years	More than 5 years
Obligations for uncertain tax positions (1)	\$—	\$—	\$—	\$—	\$—
Co-promote termination obligations (2)	\$ 11,746	\$ 4,329	\$ 6,399	\$ 1,018	\$—
Purchase obligations (3)	\$ 7,215	\$ 7,215	\$—	\$—	\$—
Contingent liabilities (4)	\$ 1,618	\$ 1,618	\$—	\$—	\$—
Note and interest payment obligations	\$ 9,364	\$ 9,364	\$—	\$—	\$—
Operating lease obligations (5)	\$ 14,398	\$ 5,524	\$ 7,045	\$ 1,455	\$ 374

(1) Expected payments related to obligations for uncertain tax positions cannot be reasonably estimated

Co-promote termination obligations represent our legal obligation as primary obligor to Organon due to the fact that Organon did not consent to the legal assignment of the co-promote termination obligation to Pfizer. The

(2) liability is offset by an asset which represents a non-interest bearing receivable for future payments to be made by Pfizer.

(3) Purchase obligations represent our commitments under our supply agreement with Hovione for Captisol purchases. Contingent liabilities to former shareholders and licenseholders are subjective and affected by changes in inputs to the valuation model including management's assumptions regarding revenue volatility, probability of

(4) commercialization of products, estimates of timing and probability of achievement of certain revenue thresholds and developmental and regulatory milestones and affect amounts owed to former license holders and CVR holders. As of December 31, 2013, only those liabilities for revenue sharing payments achieved as a result of 2013 income are included in the table above.

We lease office and research facilities that we have fully vacated under operating lease arrangements expiring in July 2015 and August 2016. We sublet portions of these facilities through the end of our lease. As of December 31,

(5) 2013, we expect to receive aggregate future minimum lease payments totaling \$2.4 million (nondiscounted) over the duration of the sublease agreement as follows and not included in the table above: less than one year, \$1.3 million; two to three years, \$1.1 million; and more than four years, \$0.

## Critical Accounting Policies

Certain of our policies require the application of management judgment in making estimates and assumptions that affect the amounts reported in the consolidated financial statements and disclosures made in the accompanying notes. Those estimates and assumptions are based on historical experience and various other factors deemed to be applicable and reasonable under the circumstances. The use of judgment in determining such estimates and assumptions is by nature, subject to a degree of uncertainty. Accordingly, actual results could differ materially from the estimates made. Our critical accounting policies are as follows:

Revenue Recognition

## Revenue Recognition

Royalties on sales of products commercialized by our partners are recognized in the quarter reported by the respective partner. Generally, we receive royalty reports from our licensees approximately one quarter in arrears due to the fact that our agreements require partners to report product sales between 30-60 days after the end of the quarter. We recognize royalty revenues when we can reliably estimate such amounts and collectability is reasonably assured. Under this accounting policy, the royalty revenues reported are not based upon estimates and such royalty revenues are typically reported in the same period in which payment is received.

Revenue from material sales of Captisol is recognized upon transfer of title, which normally passes upon shipment to the customer. Our credit and exchange policy includes provisions for the return of product between 30 to 90 days, depending on the specific terms of the individual agreement, when that product (1) does not meet specifications, (2) is damaged in shipment (in limited circumstances where title does not transfer until delivery), or (3) is exchanged for an alternative grade of Captisol.

Revenue from research funding under our collaboration agreements is earned and recognized on a percentage-of-completion basis as research hours are incurred in accordance with the provisions of each agreement. Nonrefundable, up-front license fees and milestone payments with standalone value that are not dependent on any future performance by us under our collaboration agreements are recognized as revenue upon the earlier of when payments are received or collection is assured, but are deferred if we have continuing performance obligations. Amounts received under multiple-element arrangements requiring ongoing services or performance by us are recognized over the period of such

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services or performance. We occasionally have sub-license obligations related to arrangements for which we receive license fees, milestones and royalties. We evaluate the determination of gross versus net reporting based on each individual agreement.

Sales-based milestone revenue is accounted for similarly to royalties, with revenue recognized upon achievement of the milestone assuming all other revenue recognition criteria for milestones are met. Revenue from development and regulatory milestones is recognized when earned, as evidenced by written acknowledgement from the collaborator, provided that (i) the milestone event is substantive, its achievability was not reasonably assured at the inception of the agreement, and we have no further performance obligations relating to that event, and (ii) collectability is reasonably assured. If these criteria are not met, the milestone payment is recognized over the remaining period of our performance obligations under the arrangement.

We analyze our revenue arrangements and other agreements to determine whether there are multiple elements that should be separated and accounted for individually or as a single unit of accounting. For multiple element contracts, arrangement consideration is allocated at the inception of the arrangement to all deliverables on the basis of relative selling price, using a hierarchy to determine selling price. Management first considers vendor-specific objective evidence ("VSOE"), then third-party evidence ("TPE") and if neither VSOE nor TPE exist, we use our best estimate of selling price.

Many of our revenue arrangements involve the bundling of a license with the option to purchase manufactured product. Licenses are granted to pharmaceutical companies for the use of Captisol in the development of pharmaceutical compounds. The licenses may be granted for the use of the Captisol product for all phases of clinical trials and through commercial availability of the host drug or may be limited to certain phases of the clinical trial process. We believe that our licenses have stand-alone value at the outset of an arrangement because the customer obtains the right to use Captisol in its formulations without any additional input by us, and in a hypothetical stand-alone transaction, the customer would be able to procure inventory from another manufacturer in the absence of contractual provisions for exclusive supply by us.

### Inventory

Inventory is stated at the lower of cost or market value. We determine cost using the first-in, first-out method. We analyze our inventory levels periodically and write down inventory to its net realizable value if it has become obsolete, has a cost basis in excess of its expected net realizable value or is in excess of expected requirements.

### Co-Promote Termination Accounting

As part of the termination and return of co-promotion rights agreement that we entered into with Organon in January 2006, we agreed to make quarterly payments to Organon, effective beginning in the fourth quarter of 2006, equal to 6.5% of Avinza net sales through December 31, 2012 and thereafter 6% through patent expiration, currently anticipated to be November 2017. The estimated fair value of the amounts to be paid to Organon after the termination, based on the future estimated net sales of the product, was recognized as a liability and expensed as a cost of the termination as of the effective date of the agreement.

In connection with the Avinza sale transaction, King Pharmaceuticals, now a subsidiary of Pfizer, assumed our obligation to make payments to Organon based on net sales of Avinza (the fair value of which approximated \$11.7 million as of December 31, 2013). As Organon has not consented to the legal assignment of the co-promote termination obligation from us to Pfizer, we remain liable to Organon in the event of Pfizer's default of this obligation. Therefore, we recorded an asset on February 26, 2007 to recognize Pfizer's assumption of the obligation, while continuing to carry the co-promote termination liability in our consolidated financial statements to recognize our legal obligation as primary obligor to Organon. This asset represents a non-interest bearing receivable for future payments to be made by Pfizer and is recorded at its fair value. As of December 31, 2013 and thereafter, the receivable and liability will remain equal and adjusted each quarter for changes in the fair value of the obligation. On a quarterly basis, management reviews the carrying value and assesses the co-promote termination receivable for impairment (e.g. in the event Pfizer defaults on the assumed obligation to pay Organon). Annually management also reviews the carrying value of the co-promote termination liability. Due to assumptions and judgments inherent in determining the estimates of future net Avinza sales through November 2017, the actual amount of net Avinza sales used to determine the amount of the asset and liability for a particular period may be materially different from current estimates. Any

resulting changes to the co-promote termination liability will have a corresponding impact on the co-promote termination payments receivable. As of December 31, 2013 and 2012, the fair value of the co-promote termination liability (and the corresponding receivable) was determined using a discount rate of 15%.

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## Impairment of Long-Lived Assets

We review long-lived assets for impairment annually or whenever events or circumstances indicate that the carrying amount of the assets may not be recoverable. We measure the recoverability of assets to be held and used by comparing the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets. Fair value of our long-lived assets is determined using the expected cash flows discounted at a rate commensurate with the risk involved. As of December 31, 2013, we believe that the future discounted cash flows to be received from our long-lived assets will exceed the assets' carrying value.

## Income Taxes

Income taxes are accounted for under the asset and liability method. This approach requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of differences between the tax basis of assets or liabilities and their carrying amounts in the consolidated financial statements. A valuation allowance is provided for deferred tax assets if it is more likely than not that these items will either expire before we are able to realize their benefit or if future deductibility is uncertain. As of December 31, 2013, we have provided a full valuation allowance against our deferred tax assets as recoverability was uncertain. Developing the provision for income taxes requires significant judgment and expertise in federal and state income tax laws, regulations and strategies, including the determination of deferred tax assets and liabilities and, if necessary, any valuation allowances that may be required for deferred tax assets. Our judgments and tax strategies are subject to audit by various taxing authorities. While we believe we have provided adequately for our income tax liabilities in our consolidated financial statements, adverse determinations by these taxing authorities could have a material adverse effect on our consolidated financial condition and results of operations. Our ending deferred tax liability represents liabilities for which we cannot estimate the reversal period and therefore cannot be used as support for our deferred tax assets.

## Share-Based Compensation

Share-based compensation cost for awards to employees and non-employee directors is recognized on a straight-line basis over the vesting period until the last tranche vests. Compensation cost for consultant awards is recognized over each separate tranche's vesting period. We recognized compensation expense of \$5.7 million, \$4.1 million and \$3.4 million for 2013, 2012 and 2011, respectively, associated with option awards, restricted stock and our employee stock purchase plan.

The fair-value for options that were awarded to employees and directors was estimated at the date of grant using the Black-Scholes option valuation model with the following weighted average assumptions:

	Year Ended December 31,		
	2013	2012	2011
Risk-free interest rate	1.13%-1.82%	0.83%-1.14%	1.09%-2.61%
Dividend yield	—	—	—
Expected volatility	70%	69%	69%
Expected term	6 years	6 years	6 years
Forfeiture rate	8.4%-9.8%	8.0%-11.2%	8.9%-14.1%

The risk-free interest rate is based on the U.S. Treasury yield curve at the time of the grant. The expected term of the employee and non-employee director options is the estimated weighted-average period until exercise or cancellation of vested options (forfeited unvested options are not considered) based on historical experience. The expected term for consultant awards is the remaining period to contractual expiration. Volatility is a measure of the expected amount of variability in the stock price over the expected life of an option expressed as a standard deviation. In making this assumption, we used the historical volatility of our stock price over a period equal to the expected term. The forfeiture rate is based on historical data at the time of the grant.

## New Accounting Pronouncements

In July 2012, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, 2012-02, Intangibles - Goodwill and Other: Testing Indefinite-Lived Intangible Assets for Impairment in ASU

2012-02. ASU 2012-02 allows a company the option to first assess qualitative factors to determine whether it is necessary to perform a quantitative impairment test. Under that option, a company would no longer be required to calculate the fair value of an indefinite-lived intangible asset unless the company determines, based on that qualitative assessment, that it is more likely than not that the fair value of the indefinite-lived intangible asset is less than its carrying amount. The amendments in this ASU are

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effective for annual and interim indefinite-lived intangible asset impairment tests performed for periods beginning after September 15, 2012. We adopted this standard for the year ended December 31, 2012. The adoption of ASU 2012-02 did not have a material impact on our financial position or results of operations.

In February 2013, the FASB issued ASU No. 2013-02, Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income. Under ASU 2013-02, an entity is required to provide information about the amounts reclassified out of Accumulated Other Comprehensive Income, or AOCI, by component. In addition, an entity is required to present, either on the face of the financial statements or in the notes, significant amounts reclassified out of AOCI by the respective line items of net income, but only if the amount reclassified is required to be reclassified in its entirety in the same reporting period. For amounts that are not required to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures that provide additional details about those amounts. Implementing ASU 2013-02 did not change the current requirements for reporting net income or other comprehensive income in the financial statements. The amendments in this ASU are effective for us for fiscal years, and interim periods within those years, beginning after January 1, 2014.

In July, 2013, the FASB issued Accounting Standards Update No. 2013-11, Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists. ASU 2013-11 requires the netting of unrecognized tax benefits, or UTBs, against a deferred tax asset for a loss or other carryforward that would apply in settlement of the uncertain tax positions. UTBs are required to be netted against all available same-jurisdiction loss or other tax carryforwards that would be utilized, rather than only against carryforwards that are created by the UTBs. ASU 2013-11 is effective for us for interim and annual periods beginning after December 15, 2013. We are currently evaluating the effect, if any, the adoption of this standard will have on our financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

At December 31, 2013, our investment portfolio included investments in available for sale equity securities of \$4.3 million. These securities are subject to market risk and may decline in value based on market conditions.

We do not hold or issue derivatives, derivative commodity instruments or other financial instruments for speculative trading purposes. Further, we do not believe our cash and cash equivalents and restricted cash and investments have significant risk of default or illiquidity. We made this determination based on discussions with our investment advisors and a review of our holdings. While we believe our cash and cash equivalents and restricted cash and investments do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. All of our cash and cash equivalents and restricted cash and investments are held at fair value.

We purchase Captisol from Hovione, located in Lisbon, Portugal. Payments to Hovione are denominated and paid in U.S. dollars, however the unit price of Captisol contains an adjustment factor which is based on the sharing of foreign currency risk between the two parties. The effect of an immediate 10% change in foreign exchange rates would have an immaterial impact on our financial condition, results of operations or cash flows.

We are exposed to market risk involving rising interest rates. To the extent interest rates rise, our interest costs could increase. An increase in interest costs of 10% would have no material impact on our financial condition, results of operations or cash flows.

Item 8. Consolidated Financial Statements and Supplementary Data

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Ligand Pharmaceuticals Incorporated

We have audited the accompanying consolidated balance sheets of Ligand Pharmaceuticals Incorporated (the “Company”) as of December 31, 2013 and 2012, and the related consolidated statements of operations, comprehensive income (loss), stockholders’ equity (deficit), and cash flows for each of the three years in the period ended December 31, 2013. These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Ligand Pharmaceuticals Incorporated as of December 31, 2013 and 2012, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2013 in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company’s internal control over financial reporting as of December 31, 2013, based on criteria established in the 1992 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 24, 2014 expressed an unqualified opinion.

/s/ GRANT THORNTON LLP

Los Angeles, California

February 24, 2014

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LIGAND PHARMACEUTICALS INCORPORATED  
CONSOLIDATED BALANCE SHEETS  
(in thousands, except share data)

	December 31,	
	2013	2012
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$11,639	\$12,381
Short-term investments	4,340	—
Accounts receivable, net	2,222	4,589
Inventory	1,392	1,697
Other current assets	959	829
Current portion of co-promote termination payments receivable	4,329	4,327
Total current assets	24,881	23,823
Restricted cash and investments	1,341	2,767
Property and equipment, net	867	788
Deferred income taxes	—	8
Intangible assets, net	53,099	55,912
Goodwill	12,238	12,238
Commercial license rights	4,571	—
Long-term portion of co-promote termination payments receivable	7,417	8,207
Other assets	299	517
Total assets	\$104,713	\$104,260
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$3,951	\$5,854
Accrued liabilities	5,337	4,961
Current portion of contingent liabilities	1,712	356
Current portion of deferred income taxes	1,574	1,581
Current portion of note payable	9,109	14,835
Current portion of co-promote termination liability	4,329	4,327
Current portion of lease exit obligations	2,811	3,039
Current portion of deferred revenue	116	486
Total current liabilities	28,939	35,439
Long-term portion of note payable	—	13,443
Long-term portion of co-promote termination liability	7,417	8,207
Long-term portion of deferred revenue, net	2,085	2,369
Long-term portion of lease exit obligations	3,071	5,963
Long-term portion of deferred income taxes	1,098	725
Long-term portion of contingent liabilities	11,795	10,543
Other long-term liabilities	695	1,086
Total liabilities	55,100	77,775
Commitments and contingencies-see note		
Stockholders' equity:		
Common stock, \$0.001 par value; 33,333,333 shares authorized; 20,468,521 and 21,278,606 shares issued and outstanding at December 31, 2013 and 2012, respectively	21	21
Additional paid-in capital	718,017	751,503

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Accumulated other comprehensive income	2,914	—	
Accumulated deficit	(671,339	) (682,759	)
Treasury stock, at cost; 0 and 1,118,222 shares at December 31, 2013 and 2012, respectively	—	(42,280	)
Total stockholders' equity	49,613	26,485	
Total liabilities and stockholders' equity	\$ 104,713	\$ 104,260	
See accompanying notes to these consolidated financial statements.			

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CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except share data)

	Year Ended December 31,		
	2013	2012	2011
Revenues:			
Royalties	\$23,584	\$14,073	\$9,213
Material Sales	19,072	9,432	12,123
Collaborative research and development and other revenues	6,317	7,883	8,701
Total revenues	48,973	31,388	30,037
Operating costs and expenses:			
Cost of material sales	5,732	3,601	4,909
Research and development	9,274	10,790	10,291
General and administrative	17,984	15,782	14,583
Lease exit and termination costs	560	1,022	552
Write-off of acquired in-process research and development	480	—	2,282
Total operating costs and expenses	34,030	31,195	32,617
Accretion of deferred gain on sale leaseback	—	—	1,702
Income (loss) from operations	14,943	193	(878)
Other (expense) income:			
Interest expense, net	(2,077)	) (2,924)	) (2,297)
Increase in contingent liabilities	(3,597)	) (1,650)	) (1,013)
Other, net	(63)	) 516	) 630
Total other expense, net	(5,737)	) (4,058)	) (2,680)
Income (loss) from continuing operations before income tax benefit	9,206	(3,865)	) (3,558)
Income tax (expense) benefit from continuing operations	(374)	) 1,191	) 13,270
Income (loss) from continuing operations	8,832	(2,674)	) 9,712
Discontinued operations:			
Gain on sale of Avinza Product Line, net	2,588	3,656	—
Gain on sale of Oncology Product Line, net	—	—	3
Income tax expense on discontinued operations	—	(1,509)	) —
Income from discontinued operations	2,588	2,147	3
Net income (loss)	\$11,420	\$ (527)	) \$9,715
Basic per share amounts:			
Income (loss) from continuing operations	\$0.43	\$ (0.14)	) \$0.49
Income from discontinued operations	0.13	0.11	—
Net income (loss)	\$0.56	\$ (0.03)	) \$0.49
Weighted average number of common shares-basic	20,312,395	19,853,095	19,655,632
Diluted per share amounts:			
Income (loss) from continuing operations	\$0.43	\$ (0.14)	) \$0.49
Income from discontinued operations	0.12	0.11	—
Net income (loss)	\$0.55	\$ (0.03)	) \$0.49
Weighted average number of common shares-diluted	20,745,454	19,853,095	19,713,320
See accompanying notes to these consolidated financial statements.			

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LIGAND PHARMACEUTICALS INCORPORATED  
 CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)  
 (in thousands)

	Year Ended December 31,		
	2013	2012	2011
Net income (loss)	\$11,420	\$(527)	) \$9,715
Unrealized net gain (loss) on available-for-sale securities, net of tax of \$0	2,914	—	(31 )
Comprehensive income (loss)	\$14,334	\$(527)	) \$9,684

See accompanying notes to these consolidated financial statements.

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LIGAND PHARMACEUTICALS INCORPORATED  
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)  
(in thousands, except share data)

	Common Stock		Additional paid-in capital	Accumulated other comprehensive income (loss)		Treasury stock		Total stockholders' equity (deficit)
	Shares	Amount		Accumulated deficit	Shares	Amount		
Balance at December 31, 2010	20,620,917	\$21	\$729,271	\$ 31	\$ (691,947)	(1,111,999)	\$(42,225)	\$ (4,849 )
Issuance of common stock under employee stock compensation plans, net	61,589	—	54	—	—	—	—	54
Unrealized net loss on available-for-sale securities	—	—	—	(31 )	—	—	—	(31 )
Repurchase of common stock	—	—	—	—	—	(6,223 )	(55 )	(55 )
Stock-based compensation	—	—	3,351	—	—	—	—	3,351
Net income	—	—	—	—	9,715	—	—	9,715
Balance at December 31, 2011	20,682,506	\$21	\$732,676	\$ —	\$ (682,232)	(1,118,222)	\$(42,280)	\$ 8,185
Issuance of common stock under employee stock compensation plans, net	180,979	—	1,103	—	—	—	—	1,103
Issuance of common stock, net	302,750	—	5,313	—	—	—	—	5,313
Stock-based compensation	—	—	4,067	—	—	—	—	4,067
Shares released from restriction	112,371	—	8,344	—	—	—	—	8,344
Net loss	—	—	—	—	(527 )	—	—	(527 )
Balance at December 31, 2012	21,278,606	\$21	\$751,503	\$ —	\$ (682,759)	(1,118,222)	\$(42,280)	\$ 26,485
Issuance of common stock under employee stock compensation plans, net	308,137	1	3,127	—	—	—	—	3,128
Stock-based compensation	—	—	5,666	—	—	—	—	5,666
Retirement of treasury shares	(1,118,222 )	(1 )	(42,279 )	—	—	1,118,222	42,280	—
Unrealized net gain on available-for-sale securities	—	—	—	2,914	—	—	—	2,914

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Net income	—	—	—	—	11,420	—	—	11,420
Balance at December 31, 2013	20,468,521	\$21	\$718,017	\$ 2,914	\$(671,339)	—	\$—	\$ 49,613

See accompanying notes to these consolidated financial statements.

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LIGAND PHARMACEUTICALS INCORPORATED  
CONSOLIDATED STATEMENTS OF CASH FLOWS  
(in thousands)

	Year Ended December 31,			
	2013	2012	2011	
Operating activities				
Net income (loss)	\$ 11,420	\$(527	) \$9,715	
Less: gain from discontinued operations	2,588	2,147	3	
Income (loss) from continuing operations	8,832	(2,674	) 9,712	
Adjustments to reconcile net income (loss) to net cash used in operating activities:				
Write-off of acquired in-process research and development	480	—	2,282	
Non-cash change in estimated fair value of contingent liabilities	3,597	1,650	1,888	
Accretion of deferred gain on sale leaseback	—	—	(1,702	)
Depreciation and amortization	2,663	2,727	2,790	
Non-cash lease costs	—	—	(51	)
Non-cash milestone revenue	—	(1,212	) —	
Gain (loss) on asset disposal	5	(17	) (456	)
Stock-based compensation	5,666	4,067	3,351	
Deferred income taxes	374	(1,204	) (13,402	)
Accretion of note payable	417	492	286	
Other	—	—	5	
Changes in operating assets and liabilities, net of acquisition:				
Accounts receivable, net	2,367	1,521	(3,915	)
Inventory	646	1,030	1,114	
Other current assets	(130	) 515	4,864	
Other long term assets	218	334	605	
Accounts payable and accrued liabilities	(2,758	) (4,801	) (11,568	)
Other liabilities	(391	) 484	865	
Deferred revenue	(654	) (1,851	) 2,160	
Net cash provided by (used in) operating activities of continuing operations	21,332	1,061	(1,172	)
Net cash used in operating activities of discontinued operations	(642	) (900	) —	
Net cash provided by (used in) operating activities	20,690	161	(1,172	)
Investing activities				
Purchase of commercial license rights	(3,571	) —	—	
Acquisition of CyDex, net of cash acquired	—	—	(32,024	)
Payments to CVR holders	(989	) (8,049	) (2,875	)
Purchases of property, equipment and building	(377	) (595	) (78	)
Proceeds from sale of property, and equipment and building	3	20	530	
Purchases of short-term investments	—	—	(10,000	)
Proceeds from sale of short-term investments	—	10,000	19,346	
Other, net	(40	) (113	) (31	)
Net cash (used in) provided by investing activities	(4,974	) 1,263	(25,132	)
Financing activities				
Proceeds from issuance of debt	—	7,500	30,000	
Repayment of debt	(19,586	) (10,000	) —	
Proceeds from issuance of common stock, net	—	5,313	—	



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Net proceeds from stock option exercises	2,974	979	54
Net proceeds from employee stock purchase program	154	124	—
Share repurchases	—	—	(55 )
Net cash (used in) provided by financing activities	(16,458 )	3,916	29,999
Net (decrease) increase in cash and cash equivalents	(742 )	5,340	3,695
Cash and cash equivalents at beginning of year	12,381	7,041	3,346

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Cash and cash equivalents at end of year	\$11,639	\$12,381	\$7,041
Supplemental disclosure of cash flow information			
Cash paid during the year:			
Interest paid	\$1,816	\$2,452	\$2,463
Taxes paid	\$26	\$—	\$39
Supplemental schedule of non-cash investing and financing activities			
Liability for commercial license rights	\$1,000	\$—	\$—
Accrued inventory purchases	\$341	\$1,426	\$—
Unrealized gain on AFS investments	\$2,914	\$—	\$—
Common stock released from restriction	\$—	\$8,344	\$—
See accompanying notes to these consolidated financial statements.			

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LIGAND PHARMACEUTICALS INCORPORATED AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Basis of Presentation

Ligand Pharmaceuticals Incorporated, a Delaware corporation (the “Company” or “Ligand”) is a biopharmaceutical company with a business model that is based upon the concept of developing or acquiring royalty revenue generating assets and coupling them with a lean corporate cost structure. By diversifying the portfolio of assets across numerous technology types, therapeutic areas, drug targets and industry partners, the Company offers investors an opportunity to invest in the increasingly complicated and unpredictable pharmaceutical industry. These therapies address the unmet medical needs of patients for a broad spectrum of diseases including hepatitis, muscle wasting, Alzheimer’s disease, dyslipidemia, diabetes, anemia, asthma, Focal Segmental Glomerulosclerosis, or FSGS, and osteoporosis. Ligand has established multiple alliances with the world’s leading pharmaceutical companies including GlaxoSmithKline, Onyx Pharmaceuticals (a subsidiary of Amgen, Inc.), Merck, Pfizer, Baxter International, Lundbeck Inc. and Spectrum Pharmaceuticals, Inc. The Company’s principle market is the United States. The Company sold its Oncology Product Line (“Oncology”) and Avinza® Product Line (“Avinza”) on October 25, 2006 and February 26, 2007, respectively. The operating results for Oncology and Avinza have been presented in the accompanying consolidated financial statements as “Discontinued Operations”.

The Company has incurred significant losses since its inception. As of December 31, 2013, the Company’s accumulated deficit was \$671.3 million and the Company had negative working capital of \$4.1 million. Management believes that cash flows from operations will improve due to Captisol® sales, an increase in revenues driven primarily from continued increases in Promacta® and Kyprolis® sales, and also from anticipated new license and milestone revenues. In the event revenues and operating cash flows are not meeting expectations, management plans to reduce discretionary expenses. However, it is possible that the Company may be required to seek additional financing. There can be no assurance that additional financing will be available on terms acceptable to management, or at all.

Management believes its currently available cash, cash equivalents, and short-term investments as well as its current and future royalty, license and milestone revenues will be sufficient to satisfy its anticipated operating and capital requirements through at least the next twelve months. The Company’s future operating and capital requirements will depend on many factors, including, but not limited to: the pace of scientific progress in its research and development programs; the potential success of these programs; the scope and results of preclinical testing and clinical trials; the time and costs involved in obtaining regulatory approvals; the costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims; competing technological and market developments; the amount of royalties on sales of the commercial products of its partners; the efforts of its collaborative partners; obligations under its operating lease agreements; costs associated with future acquisitions and the capital requirements of any companies the Company may acquire in the future. The ability of the Company to achieve its operational targets is dependent upon the Company’s ability to further implement its business plan and generate sufficient operating cash flow.

Principles of Consolidation

The accompanying consolidated financial statements include Ligand and its wholly owned subsidiaries, Ligand JVR, Allergan Ligand Retinoid Therapeutics, Seragen, Inc., Pharmacoopia, Inc. (“Pharmacoopia”), Neurogen Corporation (“Neurogen”), CyDex Pharmaceuticals, Inc. (“CyDex”), Metabasis Therapeutics (“Metabasis”), and Nexus VI, Inc. All significant intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, including disclosure of contingent assets and contingent liabilities, at the date of the consolidated financial statements and the reported amounts of revenues and expenses, definite and indefinite lived intangible assets, goodwill, co-promote termination payments receivable and co-promote termination liabilities, uncertain tax positions, deferred revenue, lease exit liability and income tax net operating loss carryforwards during the reporting period. The Company’s critical accounting policies are those that are both most important to the Company’s financial condition and results of operations and require the most difficult, subjective or complex judgments on the part of management in their

application, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Because of the uncertainty of factors surrounding the estimates or judgments used in the preparation of the consolidated financial statements, actual results may materially vary from these estimates.

#### Reclassifications

Certain reclassifications have been made to the previously issued statement of operations for the twelve months ended December 31, 2012 and 2011 for comparability purposes. These reclassifications had no effect on the reported net income, stockholders' equity and operating cash flows as previously reported.

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## Income (Loss) Per Share

Basic income (loss) per share is calculated by dividing net income or loss by the weighted average number of common shares and vested restricted stock units outstanding. Diluted income (loss) per share is computed by dividing net income or loss by the weighted average number of common shares and vested restricted stock units outstanding and the weighted average number of dilutive common stock equivalents, including stock options and non-vested restricted stock units. Common stock equivalents are only included in the diluted earnings per share calculation when their effect is dilutive. Potential common shares, the shares that would be issued upon the exercise of outstanding stock options and warrants and the vesting of restricted shares that are excluded from the computation of diluted net income (loss) per share, were 0.8 million, 1.1 million and 1.0 million for the years ended December 31, 2013, 2012, and 2011 respectively.

The following table sets forth the computation of basic and diluted net income (loss) per share for the periods indicated (in thousands, except per share amounts):

	Year Ended December 31,		
	2013	2012	2011
Net income (loss) from continuing operations	\$8,832	\$(2,674)	) \$9,712
Discontinued operations	2,588	2,147	3
Net income (loss)	\$11,420	\$(527)	) \$9,715
Shares used to compute basic income (loss) per share	20,312,395	19,853,095	19,655,632
Dilutive potential common shares:			
Restricted stock	352,959	—	—
Stock options	80,100	—	57,688
Shares used to compute diluted income (loss) per share	20,745,454	19,853,095	19,713,320
Basic per share amounts:			
Income (loss) from continuing operations	\$0.43	\$(0.14)	) \$0.49
Discontinued operations	0.13	0.11	—
Net income (loss)	\$0.56	\$(0.03)	) \$0.49
Diluted per share amounts:			
Income (loss) from continuing operations	\$0.43	\$(0.14)	) \$0.49
Discontinued operations	0.12	0.11	—
Net income (loss)	\$0.55	\$(0.03)	) \$0.49

## Cash, Cash Equivalents and Short-term Investments

Cash and cash equivalents consist of cash and highly liquid securities with original maturities of three months or less. Non-restricted equity and debt securities with a maturity of more than three months are considered short-term investments and have been classified by management as available-for-sale. Such investments are carried at fair value, with unrealized gains and losses included in the statement of comprehensive income (loss). The Company determines the cost of investments based on the specific identification method.

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The following table summarizes the various investment categories at December 31, 2013 and December 31, 2012 (in thousands):

	Cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
December 31, 2013				
Short-term investments	\$1,426	\$2,914	\$—	\$4,340
Certificates of deposit - restricted	1,341	—	—	1,341
	\$2,767	\$2,914	\$—	\$5,681
December 31, 2012				
Available-for-sale securities-restricted	\$1,426	\$—	\$—	\$1,426
Certificates of deposit-restricted	1,341	—	—	1,341
	\$2,767	\$—	\$—	\$2,767

**Restricted Cash and Investments**

Restricted cash and investments consist of certificates of deposit held with a financial institution as collateral under a facility lease and third-party service provider arrangements and available-for-sale equity investments received by the Company as a result of milestone payments from a licensee. The fair value of the Company's long-term equity investments are determined using quoted market prices in active markets and are discounted based on trading restrictions. The trading restrictions were removed during the period ending December 31, 2013 and the investments were reclassified to short-term investments.

**Concentrations of Credit Risk**

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash equivalents and investments.

The Company invests its excess cash principally in United States government debt securities, investment grade corporate debt securities and certificates of deposit. The Company has established guidelines relative to diversification and maturities that maintain safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates. During 2013, the Company did not experience any significant losses on its cash equivalents, short-term investments or restricted investments. As of December 31, 2013, cash deposits held at financial institutions in excess of FDIC insured amounts of \$250,000 were approximately \$11.1 million.

Accounts receivable from two customers were 75% of total accounts receivable at December 31, 2013. Accounts receivable from two customers were 87% of total accounts receivable at December 31, 2012.

The Company obtains Captisol from a single supplier. If this supplier were not able to supply the requested amounts of Captisol, the Company would be unable to continue to derive revenues from the sale of Captisol until it obtained an alternative source, which could take a considerable length of time.

**Inventory**

Inventory is stated at the lower of cost or market value. The Company determines cost using the first-in, first-out method. The Company analyzes its inventory levels periodically and writes down inventory to its net realizable value if it has become obsolete, has a cost basis in excess of its expected net realizable value or is in excess of expected requirements. There were no write downs related to obsolete inventory recorded for the years ended December 31, 2013 and 2012.

**Allowance for Doubtful Accounts**

The Company maintains an allowance for doubtful accounts based on the best estimate of the amount of probable losses in the Company's existing accounts receivable. Accounts receivable that are outstanding longer than their contractual payment terms, ranging from 30 to 90 days, are considered past due. When determining the allowance for doubtful accounts, several factors are taken into consideration, including historical write-off experience and review of specific customer accounts for collectability. Account balances are charged off against the allowance after collection efforts have been exhausted and the potential for recovery is considered remote. There was no allowance for doubtful accounts recorded as of December 31, 2013 and 2012.



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## Property and Equipment, net

Property and equipment is stated at cost and consists of the following (in thousands):

	December 31,	
	2013	2012
Lab and office equipment	\$3,737	\$4,374
Leasehold improvements	387	145
Computer equipment and software	616	1,150
	4,740	5,669
Less accumulated depreciation and amortization	(3,873	) (4,881
	\$867	\$788

Depreciation of equipment is computed using the straight-line method over the estimated useful lives of the assets which range from three to ten years. Leasehold improvements are amortized using the straight-line method over their estimated useful lives or their related lease term, whichever is shorter. Depreciation expense of \$0.3 million, \$0.3 million and \$0.5 million was recognized in 2013, 2012, and 2011, respectively, and is included in operating expenses.

## Goodwill and Other Identifiable Intangible Assets

Goodwill and other identifiable intangible assets consist of the following (in thousands):

	December 31,	
	2013	2012
Indefinite lived intangible assets		
Acquired in-process research and development	\$12,556	\$13,036
Goodwill	12,238	12,238
Definite lived intangible assets		
Complete technology	15,267	15,227
Less: Accumulated amortization	(2,235	) (1,473
Trade name	2,642	2,642
Less: Accumulated amortization	(387	) (256
Customer relationships	29,600	29,600
Less: Accumulated amortization	(4,344	) (2,864
Total goodwill and other identifiable intangible assets, net	\$65,337	\$68,150

The Company accounts for goodwill in accordance with Accounting Standards Codification ("ASC"), 350, Goodwill and Other Intangibles, which, among other things, establishes standards for goodwill acquired in a business combination, eliminates the amortization of goodwill and requires the carrying value of goodwill and certain non-amortizing intangibles to be evaluated for impairment on an annual basis. The Company uses the income approach and the market approach, each weighted at 50%, when performing its goodwill analysis. For the income approach, the Company considers the present value of future cash flows and the carrying value of its assets and liabilities, including goodwill. The market approach is based on an analysis of revenue multiples of guideline public companies. If the carrying value of the assets and liabilities, including goodwill, were to exceed the Company's estimation of the fair value, the Company would record an impairment charge in an amount equal to the excess of the carrying value of goodwill over the implied fair value of the goodwill. The Company performs an evaluation of goodwill as of December 31 of each year, absent any indicators of earlier impairment, to ensure that impairment charges, if applicable, are reflected in the Company's financial results before December 31 of each year. When it is determined that impairment has occurred, a charge to operations is recorded. Goodwill and other intangible asset balances are included in the identifiable assets of the business segment to which they have been assigned. Any goodwill impairment, as well as the amortization of other purchased intangible assets, is charged against the respective business segments' operating income. As of December 31, 2013, 2012, and 2011 there has been no impairment of goodwill for continuing operations.





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Amortization of definite lived intangible assets is computed using the straight-line method over the estimated useful life of the asset of 20 years. Amortization expense of \$2.4 million, \$2.4 million and \$2.3 million was recognized in 2013, 2012, and 2011, respectively. Estimated amortization expense for the years ending December 31, 2014 through 2018 is \$2.4 million per year.

In January 2011, the Company completed its acquisition of CyDex. As a result of the transaction, the Company recorded \$47.5 million of intangible assets with definite lives. The weighted-average amortization period for the identified intangible assets with definite lives is 20 years. In addition, the Company recorded \$3.2 million of acquired In-Process Research and Development ("IPR&D") and \$11.5 million of goodwill.

### Acquired in-process research and development

Intangible assets related to acquired IPR&D are considered to be indefinite-lived until the completion or abandonment of the associated research and development efforts. During the period the assets are considered to be indefinite-lived, they will not be amortized but will be tested for impairment on an annual basis and between annual tests if the Company becomes aware of any events occurring or changes in circumstances that would indicate a reduction in the fair value of the IPR&D projects below their respective carrying amounts. If and when development is complete, which generally occurs if and when regulatory approval to market a product is obtained, the associated assets would be deemed finite-lived and would then be amortized based on their respective estimated useful lives at that point in time. For the year ended December 31, 2013, the Company recorded a non-cash impairment charge of \$0.5 million for the write-off of IPR&D for Captisol-enabled intravenous Clopidogrel. The impairment analysis was performed based on the income method using a Monte Carlo analysis. The asset was impaired upon notification from MedCo that they intended to terminate the license agreement and return the rights of the compound to the Company. Captisol-enabled intravenous Clopidogrel is an intravenous formulation of the anti-platelet medication designed for situations where the administration of oral platelet inhibitors is not feasible or desirable. For the year ended December 31, 2012, there was no impairment of IPR&D.

During 2011, the impairment analysis performed by management resulted in the write-off of certain acquired in process research and development assets. The Company recorded a non-cash impairment charge of \$1.1 million for the write-off of the net book value of the IPR&D and interests in future milestones and royalties for MEDI-528, an IL-9 antibody program by AstraZeneca's subsidiary, MedImmune. The asset was impaired upon receipt of notice from MedImmune in September 2011 that it was exercising its right to terminate the collaboration and license agreement. Additionally, in 2011, the Company recorded a non-cash impairment charge of \$1.2 million for the write-off of IPR&D and interests in future milestones for TRPV1, a collaborative research and licensing program between the Company and Merck, related to the physiology, pharmacology, chemistry and potential therapeutic applications and potential clinical utilities related to Vanilloid Receptors, subtype 1. The asset was impaired upon receipt of notice from Merck that it was exercising its right to terminate the collaboration and license agreement. Subsequent to the termination of the agreement, the Company received an exclusive, perpetual, irrevocable, royalty-free (but subject to any third party royalty obligations), fully-paid world-wide license, with the right to sub-license, under specified patents and technology for the research, development, or commercialization of specified compounds and products in a limited field of use.

### Impairment of Long-Lived Assets

Management reviews long-lived assets for impairment annually or whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets. Fair value for the Company's long-lived assets is determined using the expected cash flows discounted at a rate commensurate with the risk involved.

As of December 31, 2013, management does not believe there have been any events or circumstances indicating that the carrying amount of its remaining long-lived assets may not be recoverable.

Commercial license rights

Commercial license rights represent a portfolio of future milestone and royalty payment rights acquired in accordance with the Royalty Stream and Milestone Payments Purchase Agreement entered into with Selexis SA ("Selexis") in April 2013. The portfolio consists of over 15 Selexis commercial license agreement programs with various pharmaceutical-company counterparties. The purchase price was \$4.6 million, inclusive of acquisition costs. The Company paid \$3.6 million upon closing and expects to pay \$1.0 million in April 2014. Individual commercial license rights acquired under the agreement are carried at allocated cost and approximate fair value. The carrying value of the license rights will be reduced on a pro-rata basis

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as revenue is realized over the term of the agreement. Declines in the fair value of individual license rights below their carrying value that are deemed to be other than temporary are reflected in earnings in the period such determination is made.

**Contingent Liabilities**

In connection with the Company's acquisition of CyDex in January 2011, the Company recorded a \$17.6 million contingent liability, inclusive of the \$4.3 million payment made in January 2012, for amounts potentially due to holders of the CyDex contingent value rights ("CVR's") and former license holders. The initial fair value of the liability was determined using the income approach incorporating the estimated future cash flows from potential milestones and revenue sharing. These cash flows were then discounted to present value using a discount rate of 21.6%. The liability will be periodically assessed based on events and circumstances related to the underlying milestones, and the change in fair value will be recorded in the Company's consolidated statements of operations. The carrying amount of the liability may fluctuate significantly and actual amounts paid under the CVR agreements may be materially different than the carrying amount of the liability. The fair value of the liability at December 31, 2013 and 2012 was \$9.3 million and \$10.9 million, respectively. The Company recorded a fair value adjustment to decrease the liability for CyDex related contingent liabilities of \$0.6 million for the year ended December 31, 2013, to increase the liability by \$3.4 million during the year ended December 31, 2012, and to decrease the liability by \$0.1 million during the year ended December 31, 2011. Contingent liabilities decreased for cash payments to CVR holders by \$1.0 million during the year ended December 31, 2013, \$8.0 million during the year ended December 31, 2012 and \$2.9 million during the year ended December 31, 2011.

In connection with the Company's acquisition of Metabasis in January 2010, the Company issued Metabasis stockholders four tradable CVRs, one CVR from each of four respective series of CVR, for each Metabasis share. The CVRs will entitle Metabasis stockholders to cash payments as frequently as every six months as cash is received by the Company from proceeds from Metabasis' partnership with Roche (which has been terminated) or the sale or partnering of any of the Metabasis drug development programs, among other triggering events. The acquisition-date fair value of the CVRs of \$9.1 million was determined using quoted market prices of Metabasis common stock in active markets. The fair values of the CVRs are remeasured at each reporting date through the term of the related agreement. Changes in the fair values are reported in the statement of operations as income (decreases) or expense (increases). The carrying amount of the liability may fluctuate significantly based upon quoted market prices and actual amounts paid under the agreements may be materially different than the carrying amount of the liability. The fair value of the liability was \$4.2 million and \$0 as of December 31, 2013 and 2012, respectively. The Company recorded an increase in the liability for CVRs of \$4.2 million during the year ended December 31, 2013, a decrease of \$1.1 million during the year ended December 31, 2012 and an increase of \$1.1 million during the year ended December 31, 2011.

In connection with the Company's acquisition of Neurogen in December 2009, the Company issued to Neurogen stockholders four CVRs; real estate, Aplindore, VR1 and H3, that entitle them to cash and/or shares of third-party stock under certain circumstances. The Company recorded the acquisition-date fair value of the CVRs as part of the purchase price. The acquisition-date fair value of the real estate CVR of \$3.2 million was estimated using the net proceeds from a pending sale transaction and recorded as a payable to stockholders at December 31, 2009. In February 2010, the Company completed the sale of the real estate and subsequently distributed the proceeds to the holders of the real estate CVR. As a result and after final settlement of all related expenses, the real estate CVR was terminated in August 2010. In 2012, the Company received a notice from a collaborative partner that it was terminating its agreement related to VR1 for convenience and subsequently the Company recorded a decrease in the fair value of the liability for the related CVR of \$0.2 million. Additionally, per the CVR agreement, no payment event date for the H3 program can occur after December 23, 2012 and the Company recorded a decrease in the fair value of the liability for the related CVR of \$0.5 million as of that date. There are no remaining CVR obligations under the agreement with the former Neurogen shareholders.

**Fair Value of Financial Instruments**

Fair value is defined as the exit price that would be received to sell an asset or paid to transfer a liability. Fair value is a market-based measurement that should be determined using assumptions that market participants would use in pricing an asset or liability. The Company establishes a three-level hierarchy to prioritize the inputs used in measuring fair value. The levels are described in the below with level 1 having the highest priority and level 3 having the lowest:

Level 1 - Observable inputs such as quoted prices in active markets

Level 2 - Inputs other than the quoted prices in active markets that are observable either directly or indirectly

Level 3 - Unobservable inputs in which there is little or no market data, which require the Company to develop its own assumptions

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The Company's long-term investments include investments in equity securities which were subject to trading restrictions. Additionally, there is a liability related to the investment in equity securities for amounts owed to former license holders. The fair value of the investments was previously determined using quoted market prices in active markets and discounted for the restrictive effect. For the year ended December 31, 2013, the trading restrictions were removed and the investments were reclassified to short-term investments. The Metabasis CVR liability is marked-to-market at each reporting period based upon the quoted market prices of the underlying CVR. The fair value of the CyDex contingent liabilities are determined at each reporting period based upon an income valuation model. The co-promote termination payments receivable represents a non-interest bearing receivable for future payments to be made by Pfizer and is recorded at its fair value. The receivable and liability will remain equal and adjusted each quarter for changes in the fair value of the obligation including any changes in the estimate of future net Avinza product sales.

The Company evaluates its financial instruments at each reporting period to determine if any transfers between the various three-level hierarchy have occurred and appropriately reclassifies its financial instruments to the appropriate level within the hierarchy.

### Treasury Stock

The Company may on occasion repurchase its common stock on the open market or in private transactions. When such stock is repurchased it is not constructively or formally retired and may be reissued if certain regulatory requirements are met; however, the Company may from time to time choose to retire the shares of common stock held in its treasury. The purchase price of the common stock repurchased is charged to treasury stock. During the year ended December 31, 2013, the Company retired 1,118,222 shares of its common stock held in treasury.

### Revenue Recognition

Royalties on sales of products commercialized by the Company's partners are recognized in the quarter reported by the respective partner. Generally, the Company receives royalty reports from its licensees approximately one quarter in arrears due to the fact that its agreements require partners to report product sales between 30-60 days after the end of the quarter. The Company recognizes royalty revenues when it can reliably estimate such amounts and collectability is reasonably assured. Under this accounting policy, the royalty revenues reported are not based upon estimates and such royalty revenues are typically reported in the same period in which payment is received.

Revenue from material sales of Captisol is recognized upon transfer of title, which normally passes upon shipment to the customer. The Company's credit and exchange policy includes provisions for the return of product between 30 to 90 days, depending on the specific terms of the individual agreement, when that product (1) does not meet specifications, (2) is damaged in shipment (in limited circumstances where title does not transfer until delivery), or (3) is exchanged for an alternative grade of Captisol. The Company records revenue net of sales tax collected and remitted to government authorities.

Revenue from research funding under the Company's collaboration agreements is earned and recognized on a percentage-of-completion basis as research hours are incurred in accordance with the provisions of each agreement. Nonrefundable, up-front license fees and milestone payments with standalone value that are not dependent on any future performance by the Company under its collaboration agreements are recognized as revenue upon the earlier of when payments are received or collection is assured, but are deferred if the Company has continuing performance obligations. Amounts received under multiple-element arrangements requiring ongoing services or performance by the Company are recognized over the period of such services or performance. The Company occasionally has sub-license obligations related to arrangements for which it receives license fees, milestones and royalties. The Company evaluates the determination of gross versus net reporting based on each individual agreement.

Sales-based milestone revenue is accounted for similarly to royalties, with revenue recognized upon achievement of the milestone assuming all other revenue recognition criteria for milestones are met. Revenue from development and regulatory milestones is recognized when earned, as evidenced by written acknowledgement from the collaborator, provided that (i) the milestone event is substantive, its achievability was not reasonably assured at the inception of the agreement, and the Company has no further performance obligations relating to that event, and (ii) collectability is reasonably assured. If these criteria are not met, the milestone payment is recognized over the remaining period of the

Company's performance obligations under the arrangement.

The Company analyzes its revenue arrangements and other agreements to determine whether there are multiple elements that should be separated and accounted for individually or as a single unit of accounting. For multiple element contracts, arrangement consideration is allocated at the inception of the arrangement to all deliverables on the basis of relative selling

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price, using a hierarchy to determine selling price. Management first considers vendor-specific objective evidence ("VSOE"), then third-party evidence ("TPE") and if neither VSOE nor TPE exist, the Company uses its best estimate of selling price.

Many of the Company's revenue arrangements involve the bundling of a license with the option to purchase manufactured product. Licenses are granted to pharmaceutical companies for the use of Captisol in the development of pharmaceutical compounds. The licenses may be granted for the use of the Captisol product for all phases of clinical trials and through commercial availability of the host drug or may be limited to certain phases of the clinical trial process. The Company believes that its licenses have stand-alone value at the outset of an arrangement because the customer obtains the right to use Captisol in its formulations without any additional input by the Company, and in a hypothetical stand-alone transaction, the customer would be able to procure inventory from another manufacturer in the absence of contractual provisions for exclusive supply by the Company.

### Cost of Goods Sold

The Company determines cost using the first-in, first-out method. Cost of goods sold include all costs of purchase and other costs incurred in bringing the inventories to their present location and condition, costs to store, and distribute.

### Preclinical Study and Clinical Trial Accruals

Substantial portions of the Company's preclinical studies and all of the Company's clinical trials have been performed by third-party laboratories, contract research organizations, or other vendors ("CROs"). Some CROs bill monthly for services performed, while others bill based upon milestone achievement. The Company accrues for each of the significant agreements it has with CROs on a monthly basis. For preclinical studies, accruals are estimated based upon the percentage of work completed and the contract milestones achieved. For clinical studies, accruals are estimated based upon a percentage of work completed, the number of patients enrolled and the duration of the study. The Company monitors patient enrollment, the progress of clinical studies and related activities to the extent possible through internal reviews of data reported to it by the CROs, correspondence with the CROs and clinical site visits. The Company's estimates are dependent upon the timelines and accuracy of the data provided by its CROs regarding the status of each program and total program spending. The Company periodically evaluates its estimates to determine if adjustments are necessary or appropriate based on information it receives concerning changing circumstances, and conditions or events that may affect such estimates. No material adjustments to preclinical study and clinical trial accrued expenses have been recognized to date.

### Sale of Royalty Rights

The Company previously sold to third parties the rights to future royalties of certain of its products. As part of the underlying royalty agreements, the partners have the right to offset a portion of any future royalty payments owed to the Company to the extent of previous milestone payments. Accordingly, the Company deferred a portion of the revenue associated with each tranche of royalty right sold, equal to the pro-rata share of the potential royalty offset. Such amounts associated with the offset rights against future royalty payments will reduce this balance upon receipt of future royalties from the respective partners. As of December 31, 2013 and 2012, the Company had deferred \$0.1 million and \$0.8 million of revenue, respectively.

### Product Returns

In connection with the sale of the Avinza and Oncology product lines, the Company retained the obligation for returns of product that were shipped to wholesalers prior to the close of the transactions. The accruals for product returns, which were recorded as part of the accounting for the sales transactions, are based on historical experience. Any subsequent changes to the Company's estimate of product returns are accounted for as a component of discontinued operations.

### Costs and Expenses

Collaborative research and development expense consists of labor, material, equipment and allocated facilities cost of the Company's scientific staff who are working pursuant to the Company's collaborative agreements. From time to time, collaborative research and development expense includes costs related to research efforts in excess of those required under certain collaborative agreements. Management has the discretion to set the scope of such excess efforts and may increase or decrease the level of such efforts depending on the Company's strategic priorities.



Proprietary research and development expense consists of intellectual property in-licensing costs, labor, materials, contracted services, and allocated facility costs that are incurred in connection with internally funded drug discovery and development programs.

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## Income Taxes

Income taxes are accounted for under the asset and liability method. This approach requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of differences between the tax basis of assets or liabilities and their carrying amounts in the consolidated financial statements. A valuation allowance is provided for deferred tax assets if it is more likely than not that these items will either expire before the Company is able to realize their benefit or if future deductibility is uncertain. As of December 31, 2013 and 2012, the Company had provided a full valuation allowance against its deferred tax assets as recoverability was uncertain. Developing the provision for income taxes requires significant judgment and expertise in federal and state income tax laws, regulations and strategies, including the determination of deferred tax assets and liabilities and, if necessary, any valuation allowances that may be required for deferred tax assets. Management's judgments and tax strategies are subject to audit by various taxing authorities. While the Company believes it has provided adequately for its income tax liabilities in its consolidated financial statements, adverse determinations by these taxing authorities could have a material adverse effect on the Company's consolidated financial condition and results of operations.

The Company's ending deferred tax liability represents a future tax obligation for current tax amortization claimed on acquired IPR&D. As the Company cannot estimate when the IPR&D assets will be amortizable for financial reporting purposes, the deferred tax liability associated with the IPR&D assets cannot be used to support the realization of the Company's deferred tax assets. As a result, the Company is required to increase its valuation allowance and record a charge to deferred taxes.

## Accounting for Stock-Based Compensation

Stock-based compensation expense for awards to employees and non-employee directors is recognized on a straight-line basis over the vesting period until the last tranche vests. The Company grants options and awards to employees, non-employee consultants, and non-employee directors. Only new shares of common stock are issued upon the exercise of stock options. Non-employee directors are accounted for as employees. Options and restricted stock granted to certain directors vest in equal monthly installments over one year from the date of grant. Options granted to employees vest 1/8 on the six month anniversary of the date of grant, and 1/48 each month thereafter for forty-two months. All option awards generally expire ten years from the date of grant.

The fair-value for options that were awarded to employees and directors was estimated at the date of grant using the Black-Scholes option valuation model with the following weighted average assumptions:

	Year Ended December 31,		
	2013	2012	2011
Risk-free interest rate	1.13%-1.82%	0.83%-1.14%	1.09%-2.61%
Dividend yield	—	—	—
Expected volatility	70%	69%	69%
Expected term	6 years	6 years	6 years
Forfeiture rate	8.4%-9.8%	8.0%-11.2%	8.9%-14.1%

The risk-free interest rate is based on the U.S. Treasury yield curve at the time of the grant. The expected term of the employee and non-employee director options is the estimated weighted-average period until exercise or cancellation of vested options (forfeited unvested options are not considered) based on historical experience. The expected term for consultant awards is the remaining period to contractual expiration. Volatility is a measure of the expected amount of variability in the stock price over the expected life of an option expressed as a standard deviation. In making this assumption, the Company used the historical volatility of the Company's stock price over a period equal to the expected term. The forfeiture rate is based on historical data at the time of the grant.

The following table summarizes share-based compensation expense recorded as components of research and development expenses and general and administrative expenses for the periods indicated (in thousands):



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	December 31,		
	2013	2012	2011
Share-based compensation expense as a component of:			
Research and development expenses	\$1,705	\$1,448	\$1,072
General and administrative expenses	3,961	2,619	2,279
	\$5,666	\$4,067	\$3,351

**Segment reporting**

Under Accounting Standards Codification No. 280, "Segment Reporting" (ASC 280), operating segments are defined as components of an enterprise about which separate financial information is available that is regularly evaluated by the entity's chief operating decision maker, in deciding how to allocate resources and in assessing performance. The Company has evaluated ASC 280 and has identified two reportable segments: the development and commercialization of drugs using Captisol technology by CyDex Pharmaceuticals, Inc. and the biopharmaceutical company with a business model that is based upon the concept of developing or acquiring royalty revenue generating assets and coupling them with a lean corporate cost structure of Ligand Pharmaceuticals Incorporated.

**Comprehensive Income (Loss)**

Comprehensive income (loss) represents net income (loss) adjusted for the change during the periods presented in unrealized gains and losses on available-for-sale securities less reclassification adjustments for realized gains or losses included in net income (loss). The unrealized gains or losses are reported on the Consolidated Statements of Comprehensive Income (Loss).

**New Accounting Pronouncements**

In July 2012, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update ("ASU") 2012-02, Intangibles – Goodwill and Other: Testing Indefinite-Lived Intangible Assets for Impairment in ASU 2012-02. ASU 2012-02 allows a company the option to first assess qualitative factors to determine whether it is necessary to perform a quantitative impairment test. Under that option, a company would no longer be required to calculate the fair value of an indefinite-lived intangible asset unless the company determines, based on that qualitative assessment, that it is more likely than not that the fair value of the indefinite-lived intangible asset is less than its carrying amount. The amendments in this ASU are effective for annual and interim indefinite-lived intangible asset impairment tests performed for periods beginning after September 15, 2012. The Company adopted this standard for the year ended December 31, 2012. The adoption of ASU 2012-02 did not have a material impact on the Company's financial position or results of operations.

In February 2013, the FASB issued ASU No. 2013-02, Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income. Under ASU 2013-02, an entity is required to provide information about the amounts reclassified out of Accumulated Other Comprehensive Income ("AOCI") by component. In addition, an entity is required to present, either on the face of the financial statements or in the notes, significant amounts reclassified out of AOCI by the respective line items of net income, but only if the amount reclassified is required to be reclassified in its entirety in the same reporting period. For amounts that are not required to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures that provide additional details about those amounts. Implementing ASU 2013-02 did not change the current requirements for reporting net income or other comprehensive income in the financial statements. The amendments in this ASU are effective for the Company for fiscal years, and interim periods within those years, beginning after January 1, 2014.

In July, 2013, the FASB issued Accounting Standards Update No. 2013-11, Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists. ASU 2013-11 requires the netting of unrecognized tax benefits (UTBs) against a deferred tax asset for a loss or other carryforward that would apply in settlement of the uncertain tax positions. UTBs are required to be netted against all available same-jurisdiction loss or other tax carryforwards that would be utilized, rather than only against carryforwards that are created by the UTBs. ASU 2013-11 is effective for the Company for interim and annual periods beginning after December 15, 2013. The Company is currently evaluating the effect, if any, the adoption of this

standard will have on its financial statements.

## 2. Business Combinations

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In January 2011, the Company acquired CyDex, a specialty pharmaceutical company developing products and licensing its Captisol technology. Captisol is currently incorporated in six FDA-approved medications and marketed by four of CyDex's licensees: Onyx (a subsidiary of Amgen, Inc.), Pfizer, Bristol-Myers Squibb and Baxter (formerly Prism Pharmaceuticals).

Under the terms of the agreement, the Company paid \$31.6 million to the CyDex shareholders and issued a series of CVRs. Additionally, the Company assumed certain contractual obligations for potential milestone payments to license holders. In addition, the Company agreed to pay CyDex shareholders, for each respective year from 2011 through 2016, (i) 20% of all CyDex-related revenue, but only to the extent that and beginning only when CyDex-related revenue for such year exceeds \$15 million, plus (ii) an additional 10% of all CyDex-related revenue recognized during such year, but only to the extent that and beginning only when aggregate CyDex-related revenue for such year exceeds \$35 million. The initial fair value of the liability was determined using an income approach, incorporating the estimated future cash flows from potential milestones and revenue sharing. These cash flows were then discounted to present value using a discount rate of 21.5%. For the year ended December 31, 2013, the fair value of the acquisition related contingent liabilities was determined using the income approach. The liability is evaluated each reporting period based on events and circumstances related to the underlying milestones, and the change in fair value is recorded in the Company's Consolidated Statements of Operations. The carrying amount of the liability may fluctuate significantly and actual amounts paid may be materially different than the carrying amount of the liability.

The Company is required by the CyDex CVR Agreement to dedicate at least five experienced full-time employee equivalents per year to the acquired business and to invest at least \$1.5 million per year, inclusive of such employee expenses, in the acquired business, through 2015.

The components of the purchase price allocation for CyDex are as follows (in thousands):

## Purchase Consideration (in thousands):

Cash paid to CyDex shareholders	\$31,572
Estimated fair value of contingent consideration	17,585
Total purchase consideration	\$49,157

## Allocation of Purchase Price (in thousands):

Cash	\$85
Accounts receivable	1,202
Inventory	2,414
In-process research and development	3,200
Intangible assets with definite lives	47,469
Goodwill	11,538
Other assets	1,311
Liabilities assumed	(18,062)
	\$49,157

The acquired identified intangible assets with definite lives from the acquisition with CyDex are as follows:

## Acquired Intangible Assets (in thousands)

Complete technology	\$15,227
Trademark and trade name	2,642
Customer relationships	29,600
	\$47,469

The weighted-average amortization period for the identified intangible assets with definite lives is 20 years.

The Company has allocated \$3.2 million of the purchase price of CyDex to IPR&D. This amount represents the estimated fair value of CyDex's two main proprietary products that have not yet reached technological feasibility and do not have future alternative use as of the date of the merger. The valuation was based on a probability-weighted present value of the expected upfront and milestone payments. The probability of success takes into account the stages of completion and the risks



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surrounding successful development and commercialization of the underlying product candidates. These cash flows were then discounted to present value using a discount rate of 21.5%. For the year ended December 31, 2013, the Company recorded a non-cash impairment charge of \$0.5 million for the write-off of IPR&D for Captisol-enabled intravenous Clopidogrel. The asset was impaired upon notification from MedCo that they intended to terminate the license agreement and return the rights of the compound to the Company.

The valuation of the Captisol technology was based on a derivative of the discounted cash flow method that estimated the present value of a hypothetical royalty stream derived via the licensing of similar technology. These projected cash flows were then discounted to present value using a discount rate of 20.5%. The valuation of the trademark and trade name was based on the Relief from Royalty method using royalty rates paid in third-party licensing agreements involving similar trade names. These projected cash flows were then discounted to present value using a discount rate of 20.5%. The valuation of the customer relationships was based on a discounted cash flow analysis incorporating the estimated future cash flows from these relationships during their assumed life of 20 years. These cash flows were then discounted to present value using a discount rate of 21.5%.



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## 3. Financial Instruments

The Company measures certain financial assets and liabilities at fair value on a recurring basis, including available-for-sale fixed income, equity securities, and contingent liabilities. The following table provides a summary of the assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2013 (in thousands):

## Fair Value Measurements at Reporting Date Using

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Current portion of co-promote termination payments receivable	\$4,329	\$—	\$—	\$4,329
Short-term investments	4,340	4,340	—	—
Long-term portion of co-promote termination payments receivable	7,417	—	—	7,417
Total assets	\$16,086	\$4,340	\$—	\$11,746
Liabilities:				
Current portion of contingent liabilities - CyDex	\$1,712	\$—	\$—	\$1,712
Current portion of co-promote termination liability	4,329	—	—	4,329
Long-term portion of contingent liabilities - Metabasis	4,196	4,196	—	—
Long-term portion of contingent liabilities - CyDex	7,599	—	—	7,599
Liability for restricted investments owed to former licensees	651	651	—	—
Long-term portion of co-promote termination liability	7,417	—	—	7,417
Total liabilities	\$25,904	\$4,847	\$—	\$21,057

The following table provides a summary of the assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2012 (in thousands):

## Fair Value Measurements at Reporting Date Using

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Current portion of co-promote termination payments receivable	\$4,327	\$—	\$—	\$4,327
Available-for-sale securities	1,426	—	—	1,426
Long-term portion of co-promote termination payments receivable	8,207	—	—	8,207
Total assets	\$13,960	\$—	\$—	\$13,960
Liabilities:				

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Current portion of contingent liabilities - CyDex	\$356	\$—	\$—	\$356
Current portion of co-promote termination liability	4,327	—	—	4,327
Long-term portion of contingent liabilities - CyDex	10,543	—	—	10,543
Liability for restricted investments owed to former licensees	214	—	—	214
Long-term portion of co-promote termination liability	8,207	—	—	8,207
Total liabilities	\$23,647	\$—	\$—	\$23,647

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The fair value of the Company's investments which were classified as short-term investments for the year ended December 31, 2013 is determined using quoted market prices in active markets. These investments were classified as level 3 for the year ended December 31, 2012 due to a discount based on trading restrictions. These restrictions were removed during the year ended December 31, 2013 and the Company transferred the available-for-sale investments and corresponding liability for amounts owed to former licensees from level 3 to level 1. The liability for CVRs for Metabasis are determined using quoted market prices in active markets. The fair value of the liabilities for CyDex contingent liabilities were determined based on the income approach using a Monte Carlo analysis. The fair value is subjective and is affected by changes in inputs to the valuation model including management's assumptions regarding revenue volatility, probability of commercialization of products, estimates of timing and probability of achievement of certain revenue thresholds and developmental and regulatory milestones which may be achieved and affect amounts owed to former license holders and CVR holders. Changes in these assumptions can materially affect the fair value estimate.

The following table represents significant unobservable inputs used in determining the fair value of contingent liabilities assumed in the acquisition of CyDex:

	December 31, 2013	2012
Range of annual revenue subject to revenue sharing (1)	\$4.2 million-\$19.8 million	\$3.6 million-\$28.3 million
Revenue volatility	25%	25%
Average of probability of commercialization	67.6%	68.4%
Sales beta	0.60	0.60
Credit rating	BBB	BBB
Equity risk premium	6%	6%

Revenue subject to revenue sharing represent management's estimate of the range of total annual revenue subject to (1) revenue sharing (i.e. annual revenues in excess of \$15 million) through December 31, 2016, which is the term of the CVR agreement.

There are no remaining CVR obligations under the agreement with the former Neurogen shareholders. The co-promote termination payments receivable represents a non-interest bearing receivable for future payments to be made by Pfizer and is recorded at its fair value. The fair value is subjective and is affected by changes in inputs to the valuation model including management's assumptions regarding future Avinza product sales. The receivable and liability will remain equal and adjusted each quarter for changes in the fair value of the obligation including any changes in the estimate of future net Avinza product sales.

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A reconciliation of the level 3 financial instruments as of December 31, 2013 is as follows (in thousands):

## Assets:

Fair value of level 3 financial instruments as of December 31, 2012	\$13,960	
Assumed payments made by Pfizer or assignee	(3,310)	)
Fair value adjustments recorded as unrealized gain on available-for-sale securities	2,914	
Fair value adjustments to co-promote termination liability	2,522	
Transfer of available-for-sale investments from level 3 to level 1	(4,340)	)
Fair value of level 3 financial instrument assets as of December 31, 2013	\$11,746	

## Liabilities

Fair value of level 3 financial instruments as of December 31, 2012	\$23,647	
Assumed payments made by Pfizer or assignee	(3,310)	)
Fair value adjustments for amounts owed related to restricted investments and recorded as other expense	437	
Payments to CVR and other former license holders	(989)	)
Fair value adjustments to contingent liabilities	(599)	)
Fair value adjustments to co-promote termination liability	2,522	
Transfer of liability for restricted investments owed to former licensees from level 3 to level 1	(651)	)
Fair value of level 3 financial instruments as of December 31, 2013	\$21,057	

## 4. Avinza Co-Promotion

In 2003, the Company and Organon Pharmaceuticals USA Inc. (Organon) entered into an agreement for the co-promotion of Avinza. Subsequently in 2006, the Company signed an agreement with Organon that terminated the Avinza co-promotion agreement between the two companies and returned Avinza co-promotion rights to the Company. In consideration of the early termination, the Company agreed to make quarterly royalty payments to Organon equal to 6.5% of Avinza net sales through December 31, 2012 and thereafter 6% through patent expiration, currently anticipated to be November 2017.

In February 2007, Ligand and King Pharmaceuticals, Inc ("King"), now a subsidiary of Pfizer, executed an agreement pursuant to which Pfizer acquired all of the Company's rights in and to Avinza. Pfizer also assumed the Company's co-promote termination obligation to make royalty payments to Organon based on net sales of Avinza. In connection with Pfizer's assumption of this obligation, Organon did not consent to the legal assignment of the co-promote termination obligation to Pfizer. Accordingly, Ligand remains liable to Organon in the event of Pfizer's default of the obligation. Therefore, Ligand recorded an asset as of February 26, 2007 to recognize Pfizer's assumption of the obligation, while continuing to carry the co promote termination liability in the Company's consolidated financial statements to recognize Ligand's legal obligation as primary obligor to Organon. This asset represents a non-interest bearing receivable for future payments to be made by Pfizer and is recorded at its fair value. The receivable and liability will remain equal and adjusted each quarter for changes in the fair value of the obligation including for any changes in the estimate of future net Avinza product sales. This receivable will be assessed on a quarterly basis for impairment (e.g. in the event Pfizer defaults on the assumed obligation to pay Organon).

On a quarterly basis, management reviews the carrying value of the co-promote termination liability. Due to assumptions and judgments inherent in determining the estimates of future net Avinza sales through November 2017, the actual amount of net Avinza sales used to determine the current fair value of the Company's co-promote termination asset and liability may be materially different from current estimates.



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A summary of the co-promote termination liability as of December 31, 2013 and 2012 is as follows (in thousands):

Net present value of payments based on estimated future net Avinza product sales as of December 31, 2011	\$21,452	
Assumed payments made by Pfizer or assignee	(3,479)	)
Fair value adjustments due to passage of time	(5,439)	)
Net present value of payments based on estimated future net Avinza product sales as of December 31, 2012	12,534	
Assumed payments made by Pfizer or assignee	(3,310)	)
Fair value adjustments due to passage of time	2,522	
Total co-promote termination liability as of December 31, 2013	11,746	
Less: current portion of co-promote termination liability as of December 31, 2013	4,329	
Long-term portion of co-promote termination liability as of December 31, 2013	\$7,417	

## 5. Lease Obligations

The Company leases office and laboratory facilities in California, Kansas and New Jersey. These leases expire between 2014 and 2019 and are subject to annual increases which range from 3.0% to 3.5%. The Company currently subleases office and laboratory space in California and New Jersey. The following table provides a summary of operating lease obligations and payments expected to be received from sublease agreements as of December 31, 2013 (in thousands):

Operating lease obligations:	Lease Termination Date	Less than 1 year	2-3 years	4-5 years	More than 5 years	Total
Corporate headquarters-San Diego, CA	July 2019	\$664	\$1,381	\$1,455	\$374	\$3,874
Bioscience and Technology Business Center-Lawrence, KS	December 2014	57	—	—	—	57
Vacated office and research facility-San Diego, CA	July 2015	2,240	1,332	—	—	3,572
Vacated office and research facility-Cranbury, NJ	August 2016	2,563	4,332	—	—	6,895
Total operating lease obligations		\$5,524	\$7,045	\$1,455	\$374	\$14,398
Sublease payments expected to be received:		Less than 1 year	2-3 years	4-5 years	More than 5 years	Total
Office and research facility-San Diego, CA	July 2015	\$906	\$545	\$—	\$—	\$1,451
Office and research facility-Cranbury, NJ	August 2014 and 2016	368	575	—	—	943
Net operating lease obligations		\$4,250	\$5,925	\$1,455	\$374	\$12,004

For the years ended December 31, 2013 and 2012, the Company had lease exit obligations of \$5.9 million and \$9.0 million, respectively. For the years ended December 31, 2013 and 2012, the Company made cash payments, net of sublease payments received of \$3.7 million and \$3.6 million, respectively. The Company recognized adjustments for accretion and changes in leasing assumptions of \$0.6 million and \$1.0 million for the years ended December 31, 2013 and 2012, respectively.

As part of the lease for the corporate headquarters, the Company received a tenant improvement allowance of \$3.2 million. The tenant improvements were used to build out the suite for general lab and office purposes. For the year

ended December 31, 2012, the Company recorded a sale leaseback transaction whereby it removed all property from its balance sheet. There was no gain on the sale-leaseback.

Total rent expense under all office leases for 2013, 2012 and 2011 was \$0.7 million, \$1.1 million, and \$1.2 million, respectively. The Company recognizes rent expense on a straight-line basis. Deferred rent at December 31, 2013 and 2012 was \$0.4 million and \$0.3 million, respectively, and is included in other long-term liabilities.

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## 6. Segment Reporting

The Company evaluates performance based on the operating profit (loss) of the respective business segments. The segment results may not represent actual results that would be expected if they were independent, stand-alone businesses. Segment information is as follows:

## Balance Sheet Data:

	As of December 31, 2013		
	Ligand	CyDex	Total
Total Assets	\$38,408	\$66,305	\$104,713
	As of December 31, 2012		
	Ligand	CyDex	Total
Total Assets	\$28,731	\$75,529	\$104,260
	For the year ended December 31, 2013		
	Ligand	CyDex	Total
Net revenues from external customers	\$21,436	\$27,537	\$48,973
Operating income	253	14,690	14,943
Depreciation and amortization expense	233	2,430	2,663
Write-off of in-process research and development	—	480	480
Income tax (expense) benefit from continuing operations	(419)	45	(374)
Interest expense, net	2,077	—	2,077
Gain on sale of Avinza Product Line before income taxes	2,588	—	2,588
	For the year ended December 31, 2012		
	Ligand	CyDex	Total
Net revenues from external customers	\$19,582	\$11,806	\$31,388
Operating (loss) income	(919)	1,112	193
Depreciation and amortization expense	222	2,505	2,727
Interest expense, net	2,924	—	2,924
Income tax benefit from continuing operations	1,096	95	1,191
Gain on sale of Avinza	3,656	—	3,656
Income tax expense from discontinuing operations	(1,509)	—	(1,509)



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## 7. Financing Arrangements

The Company has a secured term loan credit facility (“secured debt”). Under the terms of the secured debt, the Company made interest-only payments through February 2013. Subsequent to the interest-only payments, the note amortizes with principal and interest payments through the remaining term of the loan. Additionally, the Company must also make an additional final payment equal to 6% of the total amount borrowed which is due at maturity and is being accreted over the life of the loan. To secure the Company's repayment obligations under the secured debt agreement, the lender obtained a first priority security interest in all of the Company's assets, excluding intellectual property. The carrying values and the fixed contractual coupon rates of the Company's financing arrangements are as follows (dollars in millions):

	December 31, 2013	December 31, 2012
Current portion notes payable, 8.64%, due August 1, 2014	\$6,642	\$10,792
Current portion notes payable, 8.9012%, due August 1, 2014	2,467	4,043
Total current portion of notes payable	\$9,109	\$14,835
Long-term portion notes payable, 8.64%, due August 1, 2014	\$—	\$9,837
Long-term portion notes payable, 8.9012%, due August 1, 2014	—	3,606
Total long-term portion of notes payable	\$—	\$13,443

Principal payments on long-term debt obligations subsequent to December 31, 2013 are as follows:

Year ending December 31,	Amount
2014	\$9,365

The fair value of the Company's debt instruments approximates their carrying values as the interest is tied to or approximates market rates.

## 8. Discontinued Operations

## Avinza Product Line

On September 6, 2006, the Company and King, now a subsidiary of Pfizer, entered into a purchase agreement, or the Avinza Purchase Agreement, pursuant to which Pfizer acquired all of the Company's rights in and to Avinza in the United States, its territories and Canada, including, among other things, all Avinza inventory, records and related intellectual property, and assume certain liabilities as set forth in the Avinza Purchase Agreement. Pursuant to the terms of the Avinza Purchase Agreement, the Company retained the liability for returns of product from wholesalers that had been sold by the Company prior to the close of this transaction. Accordingly, as part of the accounting for the gain on the sale of Avinza, the Company recorded a reserve for Avinza product returns. For the years ended December 31, 2013, 2012 and 2011, the Company recognized pre-tax gains of \$2.6 million, \$3.7 million and \$0, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date. Cash used in operating activities of discontinued operations related to a settlement agreement with a wholesaler for the years ended December 31, 2013, 2012 and 2011 was \$0.6 million, \$0.9 million, and \$0, respectively.

## 9. Other Balance Sheet Details

Other current assets consist of the following (in thousands):

	December 31,	
	2013	2012
Prepaid expenses	\$786	\$801
Other receivables	173	28
	\$959	\$829



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Accrued liabilities consist of the following (in thousands):

	December 31,	
	2013	2012
Compensation	\$1,929	\$1,807
Legal	697	199
Other	2,711	2,955
	\$5,337	\$4,961

## Other Long-Term Liabilities

Other long-term liabilities consist of the following (in thousands):

	December 31,	
	2013	2012
Deferred rent	350	334
Deposits	345	538
Other	—	214
	\$695	\$1,086

## 10. Stockholders' Equity

## Stock Plans

In May 2009, the Company's stockholders approved the amendment and restatement of the Company's 2002 Stock Incentive Plan (the "Amended 2002 Plan"). The Company's 2002 Stock Incentive Plan was amended to (i) increase the number of shares available for issuance under the Amended 2002 Plan by 1.3 million shares, (ii) revise the list of performance criteria that may be used by the compensation committee for purposes of granting awards under the Amended 2002 Plan that are intended to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code, as amended, and (iii) eliminate the automatic option grant program for non-employee directors, the director fee stock issuance program and the director fee option grant program, which programs have been superseded by the Company's amended and restated Director Compensation Policy. Additionally, in May 2012, the Company's stockholders approved an amendment and restatement of the Company's 2002 Stock Incentive Plan to increase the number of shares available for issuance by 1.8 million shares. As of December 31, 2013, there were 1.5 million shares available for future option grants or direct issuance under the Amended 2002 Plan.

The Company grants options and awards to employees, non-employee consultants, and non-employee directors. Only new shares of common stock are issued upon the exercise of stock options. Non-employee directors are accounted for as employees. Options and restricted stock granted to certain directors vest in equal monthly installments over one year from the date of grant. Options granted to employees vest 1/8 on the six month anniversary of the date of grant, and 1/48 each month thereafter for forty-two months. All option awards generally expire ten years from the date of grant.

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Following is a summary of the Company's stock option plan activity and related information:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term in Years	Aggregate Intrinsic Value (In thousands)
Balance at December 31, 2010	641,261	\$21.36	7.00	\$9
Granted	636,580	9.98		
Exercised	(6,072 )	9.51		
Forfeited	(50,782 )	11.95		
Cancelled	(74,941 )	34.55		
Balance at December 31, 2011	1,146,046	14.61	7.96	1,489
Granted	714,345	14.72		
Exercised	(86,588 )	11.31		
Forfeited	(118,026 )	11.39		
Cancelled	(29,171 )	24.16		
Balance at December 31, 2012	1,626,606	14.90	7.83	11,358
Granted	439,929	23.61		
Exercised	(217,069 )	14.60		
Forfeited	(73,978 )	16.72		
Cancelled	(28,779 )	29.87		
Balance at December 31, 2013	1,746,709	16.79	7.57	62,705
Exercisable at December 31, 2013	977,351	15.69	6.87	36,232
Options vested and expected to vest as of December 31, 2013	1,746,709	\$16.79	7.57	\$62,705

The weighted-average grant-date fair value of all stock options granted during 2013, 2012 and 2011 was \$14.28, \$9.13 and \$6.32 per share, respectively. The total intrinsic value of all options exercised during 2013, 2012 and 2011 was approximately \$5.9 million, \$0.5 million and \$10,000, respectively. As of December 31, 2013, there was \$7.1 million of total unrecognized compensation cost related to nonvested stock options. That cost is expected to be recognized over a weighted average period of 2.3 years.

Cash received from options exercised, net of fees paid in 2013, 2012 and 2011 was \$3.0 million, \$1.0 million and \$58,000, respectively. There is no current tax benefit related to options exercised because of Net Operating Losses ("NOLs") for which a full valuation allowance has been established.

Following is a further breakdown of the options outstanding as of December 31, 2013:

Range of exercise prices	Options outstanding	Weighted average remaining life in years	Weighted average exercise price	Options exercisable	Weighted average exercise price
\$6.82 – \$ 10.05	459,732	6.97	\$ 9.94	350,804	\$ 9.92
10.12 – 13.53	113,684	7.90	11.39	106,070	11.34
14.47 – 14.47	489,633	8.11	14.47	204,019	14.47
16.14 – 21.00	199,248	5.21	18.14	184,301	18.11
21.92 – 87.96	484,412	8.50	26.35	132,157	33.00
6.82 – 87.96	1,746,709	7.57	\$ 16.79	977,351	\$ 15.69



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## Restricted Stock Activity

The following is a summary of the Company's restricted stock activity and related information:

	Shares	Weighted-Average Grant Date Fair Value
Nonvested at December 31, 2010	62,146	\$ 13.60
Granted	119,826	10.07
Vested	(59,936 )	12.47
Forfeited	(6,530 )	11.71
Nonvested at December 31, 2011	115,506	10.63
Granted	109,261	13.76
Vested	(72,194 )	11.47
Forfeited	(11,012 )	11.84
Nonvested at December 31, 2012	141,561	12.52
Granted	84,547	27.71
Vested	(85,681 )	14.59
Forfeited	(25,041 )	13.38
Nonvested at December 31, 2013	115,386	\$ 21.93

Restricted stock awards generally vest over three years. As of December 31, 2013, unrecognized compensation cost related to non-vested stock awards amounted to \$1.3 million. That cost is expected to be recognized over a weighted average period of 1.1 years.

## Employee Stock Purchase Plan

The Company's Employee Stock Purchase Plan, as amended and restated (the "Amended ESPP") allows participants to purchase up to 1,250 shares of Ligand common stock during each offering period, but in no event may a participant purchase more than 1,250 shares of common stock during any calendar year. The length of each offering period is six months, and employees are eligible to participate in the first offering period beginning after their hire date.

The Amended ESPP allows employees to purchase a limited amount of common stock at the end of each six month period at a price equal to 85% of the lesser of fair market value on either the start date of the period or the last trading day of the period (the "Lookback Provision"). The 15% discount and the Lookback Provision make the Amended ESPP compensatory. There were 5,016, 10,763, and 7,611 shares of common stock issued under the Amended ESPP in 2013, 2012 and 2011, respectively, resulting in an expense of \$44,517, \$38,000, and \$13,000, respectively. For shares purchased under the Company's Amended ESPP, a weighted-average expected volatility of 36%, 34%, and 18% was used for 2013, 2012 and 2011, respectively. The expected term for shares issued under the ESPP is 6 months. As of December 31, 2013, 208,673 shares of common stock had been issued under the Amended ESPP to employees and 79,515 shares are available for future issuance.

## Preferred Stock

The Company has authorized 5,000,000 shares of preferred stock, of which 1,600,000 are designated Series A Participating Preferred Stock (the "Preferred Stock"). The Board of Directors of Ligand has the authority to issue the Preferred Stock in one or more series and to fix the designation, powers, preferences, rights, qualifications, limitations and restrictions of the shares of each such series, including the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including sinking fund provisions), liquidation preferences and the number of shares constituting any such series, without any further vote or action by the stockholders. The rights and preferences of Preferred Stock may in all respects be superior and prior to the rights of the common stock. The issuance of the Preferred Stock could decrease the amount of earnings and assets available for distribution to holders of common stock or adversely affect the rights and powers, including voting rights, of the holders of the common stock and could have the effect of delaying, deferring or preventing a change in control of Ligand. As of December 31, 2013 and 2012, there are no preferred shares issued or outstanding.

## Shareholder Rights Plan

In October 2006, the Company's Board of Directors renewed the Company's stockholder rights plan, which was originally adopted and has been in place since September 2002, and which expired on September 13, 2006, through the adoption of a new 2006 Stockholder Rights Plan (the "2006 Rights Plan"). The 2006 Rights Plan provides for a dividend distribution of one preferred share purchase right (a "Right") on each outstanding share of the Company's common stock. Each

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Right entitles stockholders to buy 1/1000th of a share of Ligand Series A Participating Preferred Stock at an exercise price of \$100. The Rights will become exercisable if a person or group announces an acquisition of 20% or more of the Company's common stock, or announces commencement of a tender offer for 20% or more of the common stock. In that event, the Rights permit stockholders, other than the acquiring person, to purchase the Company's common stock having a market value of twice the exercise price of the Rights, in lieu of the Preferred stock. In addition, in the event of certain business combinations, the Rights permit the purchase of the common stock of an acquiring person at a 50% discount. Rights held by the acquiring person become null and void in each case. The 2006 Rights Plan expires in 2016.

### Public Offering

During the year ended December 31, 2013, the Company did not issue any common shares pursuant to its at-the-market equity issuance plan. During the year ended December 31, 2012, the Company issued 302,750 common shares at a weighted average price of \$18.87 per share. Total net proceeds to the Company after underwriting discounts and expenses were approximately \$5.5 million.

### Corporate Share Repurchase

On May 8, 2013, the Company's Board of Directors authorized the Company to repurchase up to \$5.0 million of its own stock in privately negotiated and open market transactions for a period of up to one year, subject to the Company's evaluation of market conditions, applicable legal requirements and other factors. The Company is not obligated to acquire common stock under this program and the program may be suspended at any time. Through December 31, 2013, the Company did not repurchase any common shares pursuant to the repurchase plan.

## 11. Litigation

The Company records an estimate of a loss when the loss is considered probable and estimable. Where a liability is probable and there is a range of estimated loss and no amount in the range is more likely than any other number in the range, The Company records the minimum estimated liability related to the claim in accordance with FASB ASC Topic 450 Contingencies. As additional information becomes available, the Company assesses the potential liability related to its pending litigation and revises its estimates. Revisions in the Company's estimates of potential liability could materially impact its results of operations.

On June 8, 2012, a federal securities class action and shareholder derivative lawsuit was filed in the Eastern District of Pennsylvania against Genaera Corporation and its officers, directors, major shareholders and trustee ("Genaera Defendants") for allegedly breaching their fiduciary duties to Genaera shareholders. The lawsuit also names the Company and its Chief Executive Officer John Higgins as additional defendants for allegedly aiding and abetting the Genaera Defendants' various breaches of fiduciary duties based on its purchase of a licensing interest in a development-stage pharmaceutical drug program from the Genaera Liquidating Trust in May 2010 and its subsequent sale of half of its interest in the transaction to Biotechnology Value Fund, Inc.

Following an amendment to the complaint and a round of motions to dismiss, the Court dismissed the amended complaint with prejudice on August 12, 2013. On September 10, 2013, the plaintiffs filed a notice of appeal. According to the Third Circuit's briefing schedule, the plaintiffs opening brief is currently due on or before February 18, 2014, the Company's answering brief is due thirty days later, and the plaintiff's reply brief, if any, is due fourteen days after that. The Company intends to continue to vigorously defend against the claims against it and Mr. Higgins in the lawsuit. Due to the complex nature of the legal and factual issues involved, however, the outcome of this matter is not presently determinable.



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12. Common Stock Subject to Conditional Redemption—Pfizer Settlement Agreement

In 1996, the Company and Pfizer entered into a settlement agreement with respect to a lawsuit filed in 1994 by the Company against Pfizer. In connection with a collaborative research agreement the Company entered into with Pfizer in 1991, Pfizer purchased shares of the Company's common stock. Under the terms of the settlement agreement, at the option of either the Company or Pfizer, milestone and royalty payments owed to the Company can be satisfied by Pfizer by transferring to the Company shares of the Company's common stock at an exchange ratio of \$74.25 per share, for revenue related to lasofoxifene and drolofoxifene. The remaining common stock issued and outstanding to Pfizer following the settlement was reclassified as common stock subject to conditional redemption (between liabilities and equity) since Pfizer has the option to settle milestone and royalties payments owed to the Company with the Company's shares, and such option is not within the Company's control. The remaining shares of the Company's common stock that could be redeemed totaled 112,371 and are reflected at the exchange ratio price of \$74.25. Pfizer has notified Ligand that the development of the two compounds covered under the 1996 settlement agreement have been terminated and thus the Company reclassified the shares and the current carrying amount of \$8.3 million to permanent equity in the first quarter of 2012.

13. Income Taxes

At December 31, 2013, the Company had federal net operating loss carryforwards set to expire through 2032 of \$555.5 million and \$173.3 million of state net operating loss carryforwards. The Company also has \$18.6 million of federal research and development credit carryforwards, which expire through 2033. The Company has \$13.9 million of California and New Jersey research and development credit carryforwards that have no expiration date. Sections 382 and 383 of the U.S. tax code imposes limitations ("382 and 383 limitations") on the annual utilization of operating loss and credit carryforwards whenever a greater than fifty percent change in the ownership of a company occurs within a three year period. In addition to the annual limitations on operating loss and credit carryforwards, Section 382 can also restrict the utilization of certain post change losses if the tax basis in assets exceeds the fair value of assets ("net unrealized built in loss") at the date of an ownership change. Companies with operating loss and credit carryforwards are required to test the cumulative three year change whenever there is an equity transaction that impacts the ownership of holders of more than five percent of the Company's stock. During 2012, the Company completed an analysis through December 31, 2011 of both its prior ownership changes as well as the ownerships changes that occurred with respect to the majority of its acquired subsidiaries. As a result of the analysis, it was determined that the Company had larger available net operating losses and credit carryforwards than previously estimated and that no net unrealized built in losses existed at any of the ownership change dates. Based upon these findings, the Company was able to recognize additional operating loss carryforwards and other deferred tax assets that previously were thought to be limited. The additional deferred tax assets were recognized up to the extent of allowable 382 and 383 limitations prior to being subject to valuation allowance considerations. Any deferred tax assets which would have expired solely as a result of the 382 and 383 limitations were removed from the Company's deferred tax assets. Future changes in the ownership of the Company could place additional restrictions on the Company's ability to utilize operating loss and credit carryforwards arising through December 31, 2013. The components of the income tax benefit for continuing operations are as follows (in thousands):

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	Year Ended December 31,		
	2013	2012	2011
Current expense (benefit):			
Federal	\$—	\$3	\$520
State	33	16	139
	33	19	659
Deferred expense (benefit):			
Federal	404	(913	) (10,803
State	(63	) (297	) (3,126
	\$374	\$(1,191	) \$(13,270

Significant components of the Company's deferred tax assets and liabilities as of December 31, 2013 and 2012 are shown below. A valuation allowance has been recognized to offset the net deferred tax assets as management believes realization of such assets is uncertain as of December 31, 2013, 2012 and 2011. The change in valuation allowance decreased \$5.4 million in 2013, increased \$41.8 million in 2012 and decreased \$15.4 million in 2011.

	December 31,	
	2013	2012
	(in thousands)	
Deferred assets:		
Net operating loss carryforwards	\$196,421	\$198,445
Research and AMT credit carryforwards	30,092	27,169
Fixed assets and intangibles	17,293	23,763
Accrued expenses	1,474	1,366
Contingent liabilities	582	1,779
Deferred revenue	760	1,013
Present value of royalties	12,175	10,836
Organon termination asset	(4,073	) (4,503
Organon termination liability	4,073	4,503
Royalty obligation	—	861
Deferred rent	1,634	2,635
Lease termination costs	—	—
Capital loss carryforwards	148	298
Other	3,701	1,844
	264,280	270,009
Valuation allowance for deferred tax assets	(249,470	) (254,870
Net deferred tax assets	\$14,810	\$15,139
Deferred tax liabilities:		
Retrophin fair value adjustment	\$(859	) \$—
Identified intangibles	(13,984	) (15,139
Identified indefinite lived intangibles	(2,639	) (2,298
Total	\$(2,672	) \$(2,298

As of December 31, 2013 and 2012, the Company had not recognized as a deferred tax asset \$2.4 million and \$0.9 million, respectively of unrealized excess tax benefits from share based compensation. When realized and the valuation allowance is reversed, such benefits will be credited directly to additional paid in capital. Changes to the valuation allowance allocated directly to other comprehensive income were \$1.0 million, \$0 and \$0.1 million for 2013, 2012 and 2011, respectively.



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A reconciliation of income taxes from continuing operations to the amount computed by applying the statutory federal income tax rate to the net loss from continuing operations is summarized as follows:

	Years Ended December 31,		
	2013	2012	2011
Amounts computed at statutory federal rate	\$(3,131	) \$1,317	\$1,204
State taxes net of federal benefit	(293	) 196	(2
Meals & entertainment	(10	) (8	) (9
Acquisition related transaction costs	—	—	(37
Imputed interest	(285	) (259	) (255
CVRs	(2,027	) 695	(601
Stock-based compensation	556	581	(597
Expired NOLs	—	(6,847	) (678
Expired research and development credits	641	(1,984	) (1,200
R&D credit study	3,940	—	—
Change in uncertain tax positions	(364	) 830	—
Rate change for changes in state law	(901	) (3,388	) —
Increase in deferred tax assets from completion of 382 analysis	(786	) 53,257	—
Change in valuation allowance	3,509	(41,768	) 15,486
Other	(1,223	) (1,431	) (41
	\$(374	) \$1,191	\$13,270

The Company accounts for income taxes by evaluating a probability threshold that a tax position must meet before a financial statement benefit is recognized. The minimum threshold is a tax position that is more likely than not to be sustained upon examination by the applicable taxing authority, including resolution of any related appeals or litigation processes, based on the technical merits of the position. The Company's remaining liabilities for uncertain tax positions are presented net of the deferred tax asset balances on the accompanying consolidated balance sheet. A reconciliation of the amount of unrecognized tax benefits at December 31, 2013 and 2012 is as follows (in thousands):

Balance at December 31, 2011	\$8,906
Additions based on tax positions related to the current year	38
Reductions for tax positions of prior years	(877
Balance at December 31, 2012	8,067
Additions based on tax positions related to the current year	417
Additions for tax positions of prior years	20
Balance at December 31, 2013	\$8,504

Included in the balance of unrecognized tax benefits at December 31, 2013 is \$8.5 million of tax benefits that, if recognized would result in adjustments to the related deferred tax assets and valuation allowance and not affect the Company's effective tax.

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2013, there was no accrual related to uncertain tax positions. The Company files income tax returns in the United States and in various state jurisdictions with varying statutes of limitations. The federal statute of limitation remains open for the 2010 tax year to present. The state income tax returns generally remain open for the 2009 tax years through present.

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## 14. Summary of Unaudited Quarterly Financial Information

The following is a summary of the unaudited quarterly results of operations for the years ended December 31, 2013 and 2012 (in thousands).

	Quarter ended			
	March 31	June 30	September 30	December 31
<b>2013</b>				
Total revenues	\$11,651	\$9,580	\$13,005	\$14,737
Total operating costs and expenses	7,719	8,066	9,935	8,310
Income tax expense	(66	) (110	) (60	) (138
Income from continuing operations	1,304	3,694	1,965	1,869
Discontinued operations	191	2,397	—	—
Net income	\$1,495	\$6,091	\$1,965	\$1,869
Basic per share amounts:				
Income from continuing operations	0.06	0.18	0.10	0.09
Discontinued operations	0.01	0.12	—	—
Net income	\$0.07	\$0.30	\$0.10	\$0.09
Diluted per share amounts:				
Income from continuing operations	0.06	0.18	0.09	0.09
Income from discontinued operations	0.01	0.12	—	—
Net income	\$0.07	\$0.30	\$0.09	\$0.09
Weighted average shares—basic	20,189,378	20,258,618	20,357,558	20,442,603
Weighted average shares—diluted	20,280,030	20,427,360	20,843,742	21,056,156
<b>2012</b>				
Total revenues	\$5,636	\$5,742	\$6,375	\$13,635
Total operating costs and expenses	6,475	7,557	7,800	9,363
Income tax benefit (expense)	35	(338	) (142	) 1,636
Income (loss) from continuing operations	(738	) (4,328	) (194	) 2,586
Income (loss) from discontinued operations	1,871	1,799	—	(1,523
Net income (loss)	\$1,133	\$(2,529	) \$(194	) \$1,063
Basic and diluted per share amounts:				
(Loss) income from continuing operations	(0.04	) (0.22	) (0.01	) 0.13
Discontinued operations	0.10	0.09	—	(0.08
Net income (loss)	\$0.06	\$(0.13	) \$(0.01	) \$0.05
Weighted average shares—basic	19,709,078	19,749,266	19,917,676	20,034,558
Weighted average shares—diluted	19,738,801	19,749,266	19,917,676	20,124,331

## 15. Subsequent Event

The Company earned and recognized a \$1 million commercial milestone payment from Onyx Pharmaceuticals (a subsidiary of Amgen, Inc.) in the first quarter of 2014. The milestone payment was triggered by the achievement of over \$250 million of annual product sales of Kyprolis in 2013.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure  
None.

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Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to provide reasonable assurance that information required to be disclosed in reports we file under the Exchange Act is recorded, processed, summarized and reported within the specified time periods and accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. The design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. As of the end of the period covered by this Annual Report on Form 10-K, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Based on this evaluation, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, concluded that, as of December 31, 2013, our disclosure controls and procedures were effective.

Previously Reported Material Weakness

As a result of the material weaknesses associated with non-routine transactions, we have added a corporate controller to our finance and accounting staff. While we had processes to identify and intelligently apply accounting standards to complex transactions, we did not have adequate numbers of highly skilled accountants to provide for a detail analysis, documentation and review of such transactions. Additionally, we enhanced our controls over the determination of the fair value of contingent liabilities by including a formal review of mathematical calculations and completeness of such calculations. These material weaknesses prevented us from properly reporting the financial information for previous interim and annual periods, and we have filed restated 10-Q and 10-K reports for the applicable periods. Management has remediated the material weaknesses and will continue to review and make necessary changes to the overall design of its internal control environment in 2014 and beyond, as well as to policies and procedures to improve the overall effectiveness of internal control over financial reporting.

Changes in Internal Controls

With the exception of the remediation efforts described above, there has been no change in our internal control over financial reporting that occurred in the annual period covered by this report that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

(b) Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of our financial reporting for external purposes in accordance with accounting principles generally accepted in the United States of America. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our financial statements in accordance with generally accepted accounting principles; providing reasonable assurance that receipts and expenditures are made in accordance with our management and directors; and providing reasonable assurance that

unauthorized acquisition, use or disposition of company assets that could have a material effect on our financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework established by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) as set forth in Internal Control-Integrated Framework. Based on our evaluation under the framework in Internal Control - Integrated Framework, the Audit Committee, after consultation with our management concluded that our internal controls over financial reporting were effective as of December 31, 2013. Previously identified material weaknesses relating to the accounting for non-routine transactions and the controls over the determination of the fair value of contingent liabilities which led to a

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misstatement of acquisition-related costs and contingent liabilities related to the acquisition of CyDex in our interim and annual financial statements were remediated during the year ended December 31, 2013. We enhanced our processes with the addition of a corporate controller with the ability to research and properly apply complex accounting standards. Additionally, we also enhanced our controls over the determination of the fair value of contingent liabilities by including a formal review of mathematical calculations and completeness of such calculations. Management has remediated the material weaknesses and will continue to review and make necessary changes to the overall design of its internal control environment in 2014 and beyond, as well as to policies and procedures to improve the overall effectiveness of internal control over financial reporting.

Grant Thornton LLP, the Company's independent registered public accountants, has audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2013, based on the COSO criteria; their report is included in Item 9A.





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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Ligand Pharmaceuticals Incorporated

We have audited the internal control over financial reporting of Ligand Pharmaceuticals Incorporated (the “Company”) as of December 31, 2013, based on criteria established in the 1992 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting (“Management’s Report”). Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2013, based on criteria established in the 1992 Internal Control-Integrated Framework issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of the Company as of and for the year ended December 31, 2013, and our report dated February 24, 2014 expressed an unqualified opinion on those financial statements.

/s/ GRANT THORNTON LLP

Los Angeles, California

February 24, 2014

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Part III

Item 10. Directors, Executive Officers and Corporate Governance

Code of Conduct

The Board of Directors has adopted a Code of Conduct and Ethics Policy (“Code of Conduct”) that applies to all officers, directors and employees. The Company will promptly disclose any material amendment or waiver to the Code of Conduct which affects any corporate officer. The Code of Conduct was filed with the SEC as an exhibit to our report on Form 10-K for the year ended December 31, 2003, and can be accessed via our website (<http://www.ligand.com>), Corporate Overview page. You may also request a free copy by writing to: Investor Relations, Ligand Pharmaceuticals Incorporated, 11119 North Torrey Pines Road, Suite 200, La Jolla, CA 92037. The other information under Item 10 is hereby incorporated by reference to Ligand’s Definitive Proxy Statement to be filed with the SEC on or prior to April 30, 2014.

Item 11. Executive Compensation

Item 11 is hereby incorporated by reference to Ligand’s Definitive Proxy Statement to be filed with the SEC on or prior to April 30, 2014.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Item 12 is hereby incorporated by reference from Ligand’s Definitive Proxy Statement to be filed with the Securities and Exchange Commission on or prior to April 30, 2014.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Item 13 is hereby incorporated by reference to Ligand’s Definitive Proxy Statement to be filed with the SEC on or prior to April 30, 2014.

Item 14. Principal Accountant Fees and Services

Item 14 is hereby incorporated by reference to Ligand’s Definitive Proxy Statement to be filed with the SEC on or prior to April 30, 2014.

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PART IV

Item 15. Exhibits and Financial Statement Schedule

(a) The following documents are included as part of this Annual Report on Form 10-K.

(1) Financial statements

<u>Index to Consolidated Financial Statements</u>	<u>40</u>
<u>Report of Independent Registered Public Accounting Firm</u>	<u>41</u>
<u>Consolidated Balance Sheets</u>	<u>42</u>
<u>Consolidated Statements of Operations</u>	<u>43</u>
<u>Consolidated Statements of Comprehensive Income (Loss)</u>	<u>44</u>
<u>Consolidated Statements of Stockholders' Equity (Deficit)</u>	<u>45</u>
<u>Consolidated Statements of Cash Flows</u>	<u>46</u>
<u>Notes to Consolidated Financial Statements</u>	<u>48</u>

(2) Schedules not included herein have been omitted because they are not applicable or the required information is in the consolidated financial statements or notes thereto.

(3) The following exhibits are filed as part of this Form 10-K and this list includes the Exhibit Index.

Exhibit Number	Description
2.1	Agreement and Plan of Merger, dated January 14, 2011 by and among the Company, CyDex Pharmaceuticals, Inc., and Caymus Acquisition, Inc., (incorporated by reference to the Company's Current Report on Form 8-K filed on January 26, 2011).
3.1	Amended and Restated Certificate of Incorporation of the Company. (incorporated by reference to the Company's Registration Statement on Form S-4 (No. 333-58823) filed on July 9, 1998).
3.2	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company, dated June 14, 2000 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2000).
3.3	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company, dated June 30, 2004 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2004).
3.4	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company, dated November 17, 2010 (incorporated by reference to the Company's Current Report on Form 8-K filed on November 19, 2010).
3.5	Amended Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of the Company (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 1999).
3.6	Second Amended and Restated Bylaws of the Company (incorporated by reference to the Company's Current Report on Form 8-K filed on April 12, 2013).
4.1	Specimen stock certificate for shares of the common stock of the Company (incorporated by reference to the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16,

1992 as amended).

4.2 2006 Preferred Shares Rights Agreement, by and between the Company and Mellon Investor Services LLC, dated October 13, 2006 (incorporated by reference to the Company's Current Report Form 8-K filed on October 17, 2006).

4.3 First Amendment to 2006 Preferred Shares Rights Agreement, by and between the Company and Computershare Shareowner Services LLC (f/k/a Mellon Investor Services LLC), dated June 19, 2013 (incorporated by reference to the Company's Current Report on Form 8-K filed on June 20, 2013).

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Exhibit Number	Description
10.1#	Form of Indemnification Agreement between the Company and each of its directors (incorporated by reference to the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended).
10.2#	Form of Indemnification Agreement between the Company and each of its officers (incorporated by reference to the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended).
10.3#	2002 Stock Incentive Plan (as amended and restated through May 31, 2012) (incorporated by reference to the Company's Registration Statement on Form S-8 filed on July 5, 2012 as amended).
10.4#	2002 Employee Stock Purchase Plan (as amended effective July 1, 2009) (incorporated by reference to the Company's Registration Statement on Form S-8 filed on June 22, 2009).
10.5#	Form of Stock Option Grant Notice and Stock Option Agreement under the Company's 2002 Stock Incentive Plan
10.6#	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Company's 2002 Stock Incentive Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2003).
10.7#	Form of Stock Issuance Agreement for non-employee directors under the Company's 2002 Stock Incentive Plan (incorporated by reference to the Company's Registration Statement on Form S-1 (no. 333-131029) filed on January 13, 2006 as amended).
10.8#	Form of Letter Agreement regarding Change of Control Severance Benefits between the Company and its officers (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2006).
10.9#	Form of Executive Officer Change in Control Severance Agreement (incorporated by reference to the Company's Current Report on Form 8-K filed on August 22, 2007).
10.10#	Amended and Restated Severance Plan, dated December 20, 2008 (incorporated by reference to the Company's Current Report on Form 8-K filed on December 24, 2012).
10.11#	Amended and Restated Director Compensation and Stock Ownership Policy, effective as of June 1, 2011 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2011).
10.12#	Letter Agreement by and between the Company and John L. Higgins, dated January 10, 2007 (incorporated by reference to the Company's Current Report on Form 8-K filed on January 16, 2007).
10.13#	Letter Agreement by and between the Company and John P. Sharp, dated March 30, 2007 (incorporated by reference to the Company's Current Report on Form 8-K filed on May 4, 2007).

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- 10.14 Stock Purchase Agreement, dated September 9, 1992, between the Company and Glaxo, Inc. (incorporated by reference to the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended).
- 10.15† Research and Development Agreement, dated September 9, 1992, between the Company and Glaxo, Inc. (incorporated by reference to the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended).
- 10.16† Option Agreement, dated September 2, 1994, between the Company and American Home Products Corporation, as represented by its Wyeth-Ayerst Research Division (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1994).
- 10.17† Research, Development and License Agreement, dated December 29, 1994, between SmithKline Beecham Corporation and the Company (incorporated by reference to the Registration Statement on Form S-1/S-3 (No. 33-87598 and 33-87600) filed on December 20, 1994, as amended).
- 10.18† Letter of Agreement, dated September 28, 1998, among the Company, Elan Corporation, plc and Elan International Services, Ltd. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1998).
- 10.19† Amended and Restated License and Supply Agreement, dated December 6, 2002, between the Company, Elan Corporation, plc and Elan Management Limited (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2002).

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Exhibit Number	Description
10.20†	Stock Purchase Agreement by and between the Company and Warner-Lambert Company dated September 1, 1999 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1999).
10.21†	License Agreement, effective June 30, 1999, by and between the Company and X-Ceptor Therapeutics, Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1999).
10.22	Purchase Agreement, dated March 6, 2002, between the Company and Pharmaceutical Royalties International (Cayman) Ltd. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2002).
10.23	Amendment Number 1 to Purchase Agreement, dated July 29, 2002, between the Company and Pharmaceutical Royalties International (Cayman) Ltd. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2002).
10.24	Amendment Number 2 to Purchase Agreement, dated December 19, 2002, between the Company and Pharmaceuticals Royalties International (Cayman) Ltd. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2002).
10.25†	Amendment Number 3 to Purchase Agreement, dated December 30, 2002, between the Company and Pharmaceuticals Royalties International (Cayman) Ltd. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2002).
10.26†	Purchase Agreement, dated December 30, 2002, between the Company and Pharmaceuticals Royalties International (Cayman) Ltd. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2002).
10.27†	Co-Promotion Agreement, dated January 1, 2003, by and between the Company and Organon Pharmaceuticals USA Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2003).
10.28†	Option Agreement Between Investors Trust & Custodial Services (Ireland) Ltd., as Trustee for Royalty Pharma, Royalty Pharma Finance Trust and the Company, dated October 1, 2003 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2003).
10.29†	Amendment to Purchase Agreement Between Royalty Pharma Finance Trust and the Company, dated October 1, 2003 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2003).
10.30	Amendment Number 1 to the Option Agreement between Investors Trust & Custodial Services (Ireland) Ltd., solely in its capacity as Trustee for Royalty Pharma, Royalty Pharma Finance Trust and the Company, dated November 5, 2004 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2004).
10.31	



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Amendment to Purchase Agreement between Royalty Pharma Finance Trust, the Company and Investors Trust and Custodial Services (Ireland) Ltd., solely in its capacity as Trustee of Royalty Pharma, dated November 5, 2004 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2004).

- 10.32† Amended and Restated Research, Development and License Agreement, dated December 1, 2005, between the Company and Wyeth (formerly American Home Products Corporation) (incorporated by reference to the Company's Registration Statement on Form S-1 (no. 333-131029) filed on January 13, 2006 as amended).
- 10.33 Termination and Return of Rights Agreement between the Company and Organon USA Inc., dated January 1, 2006 (incorporated by reference to the Amendment to the Company's Registration Statement on Form S-1 (No. 333-1031029) filed on February 10, 2006).
- 10.34 Purchase Agreement, by and between the Company, King Pharmaceuticals, Inc. and King Pharmaceuticals Research and Development, Inc., dated September 6, 2006 (incorporated by reference to the Company's Current Report Form 8-K filed on September 11, 2006).
- 10.35 Loan Agreement by and between the Company and King Pharmaceuticals, 303 Inc., dated October 12, 2006 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2006).

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Exhibit Number	Description
10.36	Letter Agreement by and between the Company and King Pharmaceuticals, Inc. effective as of December 29, 2006 (incorporated by reference to the Company's Current Report on Form 8-K filed on January 5, 2007).
10.37	Amendment Number 2 to Purchase Agreement, by and between the Company and King Pharmaceuticals, Inc., effective February 26, 2007 (incorporated by reference to the Company's Current Report on Form 8-K filed on February 28, 2007).
10.38	Purchase Agreement, by and among the Company, Seragen, Inc., Eisai Inc. and Eisai Co., Ltd., dated September 7, 2006 (incorporated by reference to the Company's Current Report Form 8-K filed on September 11, 2006).
10.39	Purchase Agreement and Escrow Instructions by and between Nexus Equity VI, LLC, the Company and Slough Estates USA Inc., dated October 25, 2006 (incorporated by reference to the Company's Current Report on Form 8-K filed on October 31, 2006).
10.40	Lease, dated July 6, 1994, between the Company and Chevron/Nexus partnership, First Amendment to Lease dated July 6, 1994 (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1995).
10.41	Sublease Agreement between the Company and eBIOSCIENCE, INC., dated as of December 16, 2007 (incorporated by reference to the Company's Current Report on Form 8-K filed on December 19, 2007).
10.42	Lease, dated August 20, 2003, between Pharmacoepia, Inc. and Eastpark at 8A (Building 1000) (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008).
10.43	Amendment to Lease, dated September 10, 2007, between Pharmacoepia, Inc. and Eastpark at 8A (Building 1000) (incorporated by reference to Pharmacoepia, Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2007, File No. 000-50523).
10.44	Lease, dated August 20, 2003, between Pharmacoepia, Inc. and Eastpark at 8A (Building 3000) (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008).
10.45	Amendment to Lease, dated April 18, 2007, between Pharmacoepia, Inc. and Eastpark at 8A (Building 3000) (incorporated by reference to Pharmacoepia, Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2007, File No. 000-50523).
10.46	Lease, between the Company and HCP TPSP, LLC, dated August 7, 2009 (incorporated by reference to the Company's Current Report on Form 8-K filed on August 11, 2009).
10.47	Lease Termination Agreement, between the Company and TPSC IX, LLC, dated August 7, 2009 (incorporated by reference to the Company's Current Report on Form 8-K filed on August 11, 2009).

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- 10.48 Lease Agreement, dated September 5, 2011, between the Company and ARE-SD Region No. 24, LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on September 9, 2011).
- 10.49 Amendment to Lease Agreement, dated November 1, 2011, between the Company and HCP TPSP, LLC (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2011).
- 10.50† Collaboration and License Agreement, dated July 9, 2003 and effective August 8, 2003, between Pharmacoepia, Inc. and Schering-Plough Ltd. (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008).
- 10.51† Collaboration and License Agreement, dated July 9, 2003 and effective August 8, 2003, between Pharmacoepia, Inc. and Schering Corporation (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008).
- 10.52 Amendment No. 1, dated July 27, 2006, to the Collaboration and License Agreements, effective as of July 9, 2003, between (i) Pharmacoepia, Inc. and Schering Corporation and (ii) Pharmacoepia, Inc. and Schering-Plough Ltd. (incorporated by reference to Pharmacoepia, Inc.'s Current Report on Form 8-K filed on August 2, 2006, File No. 000-50523).
- 10.53 License Agreement, dated March 27, 2006, between Pharmacoepia, Inc. and Bristol-Myers Squibb Company (incorporated by reference to Pharmacoepia, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2006, File No. 000-50523).

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Exhibit Number	Description
10.54	License Agreement, dated October 11, 2007, between Bristol-Myers Squibb Company and Pharmacopeia, Inc. (Filed as Exhibit 10.45) (File No. 000-50523) (incorporated by reference to Pharmacopeia, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2007, File No. 000-50523).
10.55	Contingent Value Rights Agreement, dated December 23, 2008, among the Company, Pharmacopeia, Inc. and Mellon Investor Services LLC (incorporated by reference to Pharmacopeia, Inc.'s Current Report on Form 8-K filed on December 23, 2008, File No. 000-50523).
10.56†	License Agreement, dated December 17, 2008, between the Company and SmithKline Beecham Corporation, doing business as GlaxoSmithKline (incorporated by reference to the Company's Annual Report on Form 10-K for the period ended December 31, 2008).
10.57	Settlement Agreement and Mutual Release, by and between the Company and The Rockefeller University, dated February 11, 2009 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2009).
10.58	Research Collaboration Termination Agreement, between the Company and N.V. Organon, dated July 29, 2009 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2009).
10.59	Contingent Value Rights Agreement, dated December 23, 2009, among the Company, Neurogen Corporation, Registrar and Transfer Company, and Merck CVR Registrar (incorporated by reference to the Company's Current Report on Form 8-K filed on December 24, 2009).
10.60	TR Beta Contingent Value Rights Agreement, dated January 27, 2010, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on January 28, 2010).
10.61	Glucagon Contingent Value Rights Agreement, dated January 27, 2010, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on January 28, 2010).
10.62	General Contingent Value Rights Agreement, dated January 27, 2010, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on January 28, 2010).
10.63	Amendment of General Contingent Value Rights Agreement, dated January 26, 2011, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on January 31, 2011).
10.64	Purchase and Sale Agreement, dated May 18, 2010, between the Company and The Genaera Liquidating Trust (incorporated by reference to the Company's Current Report on Form 8-K filed on May 24, 2010).

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- 10.65 Purchase Agreement, dated May 20, 2010, between the Company and Biotechnology Value Fund, L.P., on its own behalf and on behalf of Biotechnology Value Fund II, L.P. and Investment 10, L.L.C. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2010).
- 10.66 Asset Purchase Agreement, dated July 30, 2010, between Wyeth LLC, Pharmacopeia, Inc. and the Company (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2010).
- 10.67 Contingent Value Rights Agreement, by and among the Company, CyDex Pharmaceuticals, Inc., and Allen K. Roberson and David Poltack, acting jointly as Shareholders' Representative, dated January 14, 2011 (incorporated by reference to the Company's Current Report on Form 8-K filed on January 26, 2011).
- 10.68 Loan and Security Agreement, dated January 24, 2011, between the Company and Oxford Finance Corporation (incorporated by reference to the Company's Current Report on Form 8-K filed on January 26, 2011).
- 10.69 First Amendment to Loan and Security Agreement, dated April 29, 2011, between the Company and Oxford Finance LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on April 29, 2011).
- 10.70 Joinder and Second Amendment, dated October 28, 2011, between the Company and Oxford Finance LLC (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2011).

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Exhibit Number	Description
10.71	Fourth Amendment to Loan and Security Agreement, dated January 23, 2012, between the Company and Oxford Finance LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on January 26, 2012).
10.72	Sixth Amendment to Loan and Security Agreement, dated March 22, 2013, by and between the Company and Oxford Finance LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on March 25, 2013).
10.73	Loan and Security Agreement, by and between the Company and Square 1 Bank, dated March 31, 2011 (incorporated by reference to the Company's Current Report on Form 8-K filed on April 4, 2011).
10.74	First Amendment to Loan and Security Agreement, by and between the Company and Square 1 Bank, dated April 29, 2011 (incorporated by reference to the Company's Current Report on Form 8-K filed on April 29, 2011).
10.75†	Supply Agreement, dated December 20, 2002, among CyDex Pharmaceuticals, Inc., Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.76†	First Amendment to Supply Agreement, dated July 29, 2005, among CyDex Pharmaceuticals, Inc., Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.77	2nd Amendment to Supply Agreement, dated March 1, 2007, among CyDex Pharmaceuticals, Inc., Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.78†	3rd Amendment to Supply Agreement, dated January 25, 2008, among CyDex Pharmaceuticals, Inc., Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.79†	4th Amendment to Supply Agreement, dated September 28, 2009, among CyDex Pharmaceuticals, Inc., Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.80†	License Agreement, dated September 3, 1993, between CyDex Pharmaceuticals, Inc. and The University of Kansas (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.81†	

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Second Amendment to the License Agreement, dated August 4, 2004, between CyDex Pharmaceuticals, Inc. and The University of Kansas (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).

10.82† Acknowledgement Agreement, dated March 3, 2008, between CyDex Pharmaceuticals, Inc. and The University of Kansas (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).

10.83† Exclusive License Agreement, dated June 4, 1996, between Pfizer, Inc. and CyDex Pharmaceuticals, Inc. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).

10.84† Nonexclusive License Agreement, dated June 4, 1996, between Pfizer, Inc. and CyDex Pharmaceuticals, Inc. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).

10.85† Addendum to Nonexclusive License Agreement, dated December 11, 2001, between CyDex Pharmaceuticals, Inc. and Pfizer, Inc. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).

10.86† License Agreement, dated January 4, 2006, between CyDex Pharmaceuticals, Inc. and Prism Pharmaceuticals (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).

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Exhibit Number	Description
10.87†	Amendment to License Agreement, dated May 12, 2006, between CyDex Pharmaceuticals, Inc. and Prism Pharmaceuticals (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.88†	Supply Agreement, dated March 5, 2007, between CyDex Pharmaceuticals, Inc. and Prism Pharmaceuticals (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2010).
10.89†	License and Supply Agreement, dated October 12, 2005, between CyDex Pharmaceuticals, Inc. and Proteolix, Inc. (Filed as Exhibit 10.22)(File No. 000-28298) (incorporated by reference to Onyx Pharmaceuticals, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009, File No. 000-28298).
10.90†	Amended and Restated License Agreement, dated October 31, 2012, between the Company and Chiva Pharmaceuticals, Inc. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2012).
10.91†	Settlement Agreement and Mutual Release, dated October 31, 2012, between the Company and Chiva Pharmaceuticals, Inc. (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2012).
10.92†	Supply Agreement, dated June 13, 2011 by and between CyDex Pharmaceuticals, Inc. and Merck (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2011).
10.93	License Agreement, dated September 5, 2011, between the Company and ARE-3535/3565 General Atomics Court, LLC (incorporated by reference to the Company's Current Report on Form 8-K filed on September 9, 2011).
10.94	Letter Agreement, dated September 29, 2011, between the Company and Biotechnology Value Fund, L.P. (incorporated by reference to the Company's Current Report on Form 8-K filed on September 30, 2011).
10.95	Amended Letter Agreement, dated June 19, 2013, between the Company and Biotechnology Value Fund, L.P. (incorporated by reference to the Company's Current Report on Form 8-K filed on June 20, 2013).
10.96†	License Agreement, by and between CyDex and Spectrum Pharmaceuticals, Inc., dated as of March 8, 2013 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Period ended March 31, 2013).
10.97†	Supply Agreement, by and between CyDex and Spectrum Pharmaceuticals, Inc., dated as of March 8, 2013 (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Period ended March 31, 2013).
10.98†	Royalty Stream and Milestone Payments Purchase Agreement, dated April 29, 2013, between the Company and Selexis S.A. (incorporated by reference to the Company's Quarterly Report on Form



10-Q for the Period ended June 30, 2013).

- 10.99† License Agreement dated July 17, 2013 between the Company and Azure Biotech, Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Period ended September 30, 2013).
- 10.100† Exclusive License and Distribution Agreement dated July 23, 2013 between the Company and Ethicor Pharmaceuticals, Ltd. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Period ended September 30, 2013).
- 10.101† License Agreement dated August 12, 2013 between CyDex Pharmaceuticals, Inc. and CURx Pharmaceuticals, Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Period ended September 30, 2013).
- 10.102† Supply Agreement dated August 12, 2013 between CyDex Pharmaceuticals, Inc. and CURx Pharmaceuticals, Inc. (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Period ended September 30, 2013).
- 14.1 Code of Business Conduct and Ethics (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2003).
- 21.1 Subsidiaries of the Company (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2011).
- 23.1 Consent of independent registered public accounting firm-Grant Thornton LLP

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Exhibit Number	Description
24.1	Power of Attorney (See page 86).
31.1	Certification by Principal Executive Officer, Pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by Principal Financial Officer, Pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification by Principal Executive Officer, Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by Principal Financial Officer, Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

Confidential treatment has been requested for portions of this exhibit. These portions have been omitted and submitted separately to the Securities and Exchange Commission.

#Indicates management contract or compensatory plan.

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## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

## LIGAND PHARMACEUTICALS INCORPORATED

By: /S/ JOHN L. HIGGINS  
John L. Higgins,  
President and Chief Executive Officer

Date: February 24, 2014

## POWER OF ATTORNEY

Know all men by these presents, that each person whose signature appears below constitutes and appoints John L. Higgins or John P. Sharp, his or her attorney-in-fact, with power of substitution in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same with exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that the attorney-in-fact or his or her substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ JOHN L. HIGGINS John L. Higgins	President, Chief Executive Officer and Director (Principal Executive Officer)	February 24, 2014
/s/ JOHN P. SHARP John P. Sharp	Vice President, Finance and Chief Financial Officer (Principal Financial and Accounting Officer)	February 24, 2014
/s/ JASON M. ARYEH Jason M. Aryeh	Director	February 24, 2014
/s/ TODD C. DAVIS Todd C. Davis	Director	February 24, 2014
/s/ DAVID M. KNOTT David M. Knott	Director	February 24, 2014
/s/ JOHN W. KOZARICH John W. Kozarich	Director	February 24, 2014
/s/ JOHN L. LAMATTINA John L. LaMattina	Director	February 24, 2014
/s/ SUNIL PATEL Sunil Patel	Director	February 24, 2014
/s/ STEPHEN L. SABBA Stephen L. Sabba	Director	February 24, 2014

