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

FORM 10-K

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, 2011

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.)**
11085 North Torrey Pines Rd., Suite 100 **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. ☒

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 ☐ (Do not check if a smaller reporting company)	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 $206.6 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, 2011. 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 1, 2012, the Registrant had 19,683,235 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Registrant's 2011 Annual Meeting of Stockholders to be filed with the Commission on or before April 30, 2012 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 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 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. You may also request information via the Investor Relations page of our website.

PART I

Item 1. Business

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 royalty revenues, collaborative revenues and milestones, 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 trend(s), 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 royalties or other 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, future arbitration, 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 release publicly the results of 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.*

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

We were incorporated in Delaware in 1987. Our principal executive offices are located at 11085 North Torrey Pines Road, Suite 100, La Jolla, California, 92037. Our telephone number is (858) 550-7500.

Overview

We are a biotechnology company that operates with a business model focused on developing or acquiring revenue generating assets and coupling them to 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 powerful formulation technology that has enabled five FDA approved products, including Pfizer's VFEND® IV and Baxter International's Nexterone® and is currently being used 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 portfolio in development address the unmet medical needs of patients for a broad spectrum of diseases including hepatitis, muscle wasting, Alzheimer's disease, dyslipidemia, diabetes, anemia, asthma, rheumatoid arthritis and osteoporosis. We have established multiple alliances with the world's leading pharmaceutical companies including GlaxoSmithKline, Merck, Pfizer, Baxter International, Bristol-Myers Squibb, Celgene, Onyx Pharmaceuticals, Lundbeck Inc., Eli Lilly and Co., and The Medicines Company.

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 cost structure. Our goal is to become a sustainably profitable company that offers investors an opportunity to invest in the ever more complicated and unpredictable pharmaceutical industry. 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, and 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 50 fully-funded partner programs that are in all stages of development, from awaiting commercialization to preclinical research. 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 in 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 deliver our assets into the hands of 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 have multiple sources of potential license and royalty revenue from existing corporate agreements, and we may enter additional partnerships that will provide additional revenue opportunities. We have numerous collaborations that have the potential to generate future royalties for us. We believe the revenue generated from these and future potential collaborations will fund our business and potentially provide profits to our shareholders.

We are selling CAPTISOL material to various customers. We are the sole provider of a proprietary formulation reagent known as CAPTISOL. CAPTISOL is a well validated chemically-modified cyclodextrin molecule that improves the solubility, stability, and pharmicokinetics of many drugs. We receive revenue from the selling of CAPTISOL 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 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 portfolio of over 60 current and future potential revenue generating programs, over 50 of which are fully funded by our partners. We expect to receive royalties from eight marketed products in 2012 and have multiple programs at Phase IIb through NDA submission which represent our future upcoming potential revenue generating programs. While many of these programs have been disclosed publicly, a significant number of our partners and their programs remain undisclosed to protect competitive and proprietary information about these programs.

PROMACTA (GSK)

GSK's PROMACTA® (Eltrombopag) is the first oral thrombopoietin (TPO) receptor agonist therapy for the treatment of adult patients with chronic ITP. In November 2008, the U.S. Food and Drug Administration, or FDA, granted accelerated approval of PROMACTA for the treatment of thrombocytopenia in patients with

chronic immune (idiopathic) thrombocytopenic purpura, or ITP, who have had an insufficient response to corticosteroids, immunoglobulins or splenectomy. In February 2011, the FDA granted GSK full approval status for PROMACTA in the US 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 Mitgation Strategies (REMS) program that PROMACTA had been operating under in the US 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 March 2010, GSK received approval for REVOLADE® (eltrombopag/PROMACTA) from the European Medicines Agency's Committee for Medicinal Products for Human Use (CHMP) and in November 2010 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. Eltrombopag is also authorized for use in all 27 member states of the European Union, as well as India, Australia, Ireland, Japan, Taiwan, Turkey, Singapore, Kuwait, Chile, Russia and Bahrain under the trade name REVOLADE. In the EU and Japan, Eltrombopag is indicated for adult chronic ITP splenectomized patients who have not responded (are refractory) to other treatments, such as corticosteroids and immunoglobulins. Eltrombopag may also be considered as second-line treatment for adult non-splenectomized patients where surgery is contraindicated.

As a result of the regulatory approvals of PROMACTA, pursuant to the terms of a license agreement with GSK, we are entitled to receive tiered royalties on annual net sales of PROMACTA. GSK has listed a patent in the FDA's Orange Book for PROMACTA with an expiration date in 2024.

PROMACTA Royalty*

Rate	Tier
4.7%	Less than $100M annual sales
6.6%	On portion of sales in range of $100M - $200M
7.5%	On portion of sales in range of $200M - $400M
9.4%	On portion of sales greater than $400M
9.3%	On portion of sales greater than $1.5B

* Net royalties due Ligand after payment to Rockefeller

AVINZA (Pfizer)

We currently receive royalty revenues from Pfizer, Inc. for sales from the pain therapeutic AVINZA®. In February 2007, we completed the sale of our AVINZA product line to King. As a result of the sale, we receive royalties on the net sales of AVINZA through 2017. Royalties are paid at a rate of 5% on sales up to $200 million and a higher rate above $200 million. In October 2010, Pfizer announced the acquisition of King Pharmaceuticals.

Viviant/Conbriza (Pfizer)

In October 2010, we announced that our partner Pfizer, Inc. 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. Pfizer received manufacturing and marketing approval for the product in Japan in July 2010. VIVIANT was approved in April 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 (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. We are entitled to receive tiered royalties on net sales of bazedoxifene. 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 agreement.

Nexterone (Baxter International)

In 2006, CyDex outlicensed Nexterone®, an injectable formulation combining amiodarone and CAPTISOL®, to Baxter International "Baxter" (formerly Prism Pharmaceuticals, Inc.). 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. 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 March 2029. On November 19, 2010, Prism, who was subsequently acquired by Baxter, received marketing approval from the FDA for Nexterone and launched Nexterone in the United States in 2011.

Select Late-Stage Development 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, Phase III HepC-Related Thrombocytopenia and PII Oncology-Related Thrombocytopenia)

PROMACTA is approved for ITP and we receive royalties from GSK on world-wide sales. In an effort to expand PROMACTA's use, GSK has recently completed two large Phase III studies (ENABLE 1 and 2) designed to demonstrate PROMACTA's value in treatment of thrombocytopenia in patients with Hepatitis C. In November 2011, GSK presented data at the annual meeting of the American Association for the Study of Liver Disease (AASLD) where it was reported that both studies met their primary endpoint with high statistical significance. Full analysis of all safety data should be completed in the first half of 2012 and we expect an sNDA filing during 2012.

GSK is also conducting Phase II clinical studies for oncology-related thrombocytopenia in patients with solid tumors, sarcoma and advanced Myelodysplastic Syndrome (MDS) or Secondary Acute Myeloid Leukemia after MDS.

Carfilzomib (Onyx, Phase III/NDA, Multiple Myeloma)

CyDex and Onyx Pharmaceuticals (formerly Proteolix) entered into a collaboration in 2005 to develop the CAPTISOL-enabled IV formulation of carfilzomib for refractory multiple myeloma. Onyx completed filing of the NDA in 2011 and was granted a standard review by the FDA, with a Prescription Drug User Fee Act (PDUFA) date set as July 27, 2012. Onyx is continuing to run two large Phase III studies in support of this program, the ASPIRE and FOCUS trials, which should complete in 2013. We are eligible to receive milestones, royalties and CAPTISOL material sales revenue from this program.

Aprela (Pfizer, Phase III, Post-Menopausal Symptoms)

In October 2010, we announced that our partner Pfizer, Inc. launched VIVIANT (bazedoxifene) in Japan for the treatment of postmenopausal osteoporosis. Pfizer is now combining VIVIANT with Premarin to create a combination therapy called Aprela for the treatment of post-menopausal symptoms in women. Pfizer has completed PIII studies of Aprela and we expect an NDA filing in 2012. We are entitled to receive tiered royalties on all net sales of bazedoxifene, whether alone or in combination with other products. Any such royalties may be subject to reduction or offset against past milestone payments and/or may be subject to other terms and conditions set forth in our agreement.

Merck CAPTISOL Program, Molecule Undisclosed(Merck, Phase III, Undisclosed Indication)

Ligand and Merck entered into a CAPTISOL supply agreement in June 2011 for an undisclosed Merck program. Merck is currently conducting a pivitol study for this program and we expect Merck to potentially file a 505(b)(2) in 2013 for approval to market this CAPTISOL program. Financial terms of the relationship remain undisclosed, but we expect to generate substantial material sales revenue through the supply of CAPTISOL for this program.

CAPTISOL-Enabled Clopidogrel (The Medicines Company, Phase III, Anti-coagulant)

We announced in June 2011 that we had licensed the full world-wide rights to our CAPTISOL®-enabled clopidogrel program to The Medicines Company. Clopidogrel is the active ingredient in PLAVIX®, the world's 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 received an upfront payment of $1.8 million, and are eligible to receive up to $22 million in milestones and up to double digit royalties on annual worldwide net sales. In addition, we will also supply both the clinical and commercial requirements of CAPTISOL for this program, and if the intravenous formulation is approved for commercialization, we will be the exclusive supplier of the product. We recognized $0.9 million of the upfront payment as revenue and under the terms of our CyDex contingent value rights agreement, remitted $0.9 million to CyDex shareholders.

The Medicines Company is planning to initiate a pivotal study for the program in 2012 and we expect an NDA to be filed in 2013

DARA program (Retrophin, various stages and indications)

In February 2012, we announced that we had licensed the full world-wide rights to DARA (a Dual Acting Receptor Antagonist of Angiotension and Endothelin receptors). Retrophin intends to develop DARA for orphan indications of severe kidney diseases including Focal Segmental Glomerulosclerosis (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. DARA, 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. We are entitled to receive a net up front payment of $1 million, and may receive, net of amounts owed to third parties, over $75 million in milestones as well as 9% in royalties on potential future worldwide sales by Retrophin.

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
CAPTISOL-Enabled Melphalan IV	Oncology	Pivotal
HepDirect HCV Inhibitor	Hepatitis C	Preclinical
IRAK4 Inhibitor	Inflammation	Preclinical
Glucagon Receptor Antagonist	Diabetes	Preclinical
CAPTISOL-Enabled Topiramate	Epilepsy	Phase II

CAPTISOL-Enabled Melphalan IV

We are developing a proprietary CAPTISOL-enabled formulation of melphalan as an injectable, palliative treatment for patients with multiple myeloma. Melphalan, which is currently marketed by GSK under the name Alkeran®, is the standard of care for use in conditioning regimens prior to autologous stem cell transplant in patients with multiple myeloma. Our Captisol-enabled form of melphalan does not require a special non-aqueous dissolving solvent system - containing high levels of propylene glycol—for reconstitution, and can be dissolved directly into saline. This allows for longer administration durations and slower infusion rates, enabling doctors to safely achieve a higher dose intensity of pre-transplant chemotherapy. The CAPTISOL-enabled melphalan program has also obtained orphan drug designation from the FDA. In December 2011, we reported final phase II bioequivalence data from this program and expect to initiate a pivotal study in 2012 to support a US 505(b)(2) filing with the FDA in 2013.

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 produces fewer side effects and the potential for an overall superior risk-benefit ratio compared to non HepDirect therapies. We anticipate filing an IND for our lead program in 2013.

IRAK4 Inhibitor Program

We are developing small molecule Interleukin-1 Receptor Associated Kinase-4 (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.

Glucagon Receptor Antagonist Research Program

We are developing small molecule glucagon receptor antagonists for the treatment of Type 2 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 which contributes to hyperglycemia in these patients. Compounds have been discovered that block the action of glucagon on human hepatocytes *in vitro*. Our advanced glucagon antagonist compounds demonstrate oral bioavailability in rodents.

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

- Aplindore (Phase II, Restless Leg/Parkinson’s)
- Selective Androgen Receptor Modulator-SARM (Phase I, Muscle Wasting)
- CAPTISOL-Enabled Nasal Budesonide (Phase I, Allergic Rhinitis)
- Oral EPO-Receptor Agonist (Preclinical, Anemia)
- GCSF-Receptor Agonist (Preclinical, Neutropenia)
- Thyroid Receptor-beta Agonist (Preclinical, 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)
- Others

Recent Acquisitions and Other Transactions

CyDex Pharmaceuticals, Inc. Acquisition

On January 26, 2011, we completed the acquisition of CyDex Pharmaceuticals, Inc. or CyDex. As a result, we gained revenue from four currently marketed products and one currently approved product, a large portfolio of partnered drug development programs, an internal pipeline of proprietary drugs, and the CAPTISOL drug formulation platform technology. We paid $31.6 million in cash, of which $20.0 million was financed, with an additional $4.3 million paid on the one-year anniversary of the transaction. In addition, as previously disclosed, Cydex stockholders are entitled to contingent cash payments related to certain transactions and pursuant to a revenue share plan.

Strategic Alliance with Chiva Pharmaceuticals of China for HepDirect Drug Development

In January 2011, we entered into a strategic relationship with Chiva Pharmaceuticals, Inc., or Chiva, to develop several of our assets and technology in China and potentially worldwide. Chiva was granted licenses to begin immediate development in China of our 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).

Chiva is obligated to develop these programs to address the high unmet medical need in China’s fast growing pharmaceutical market. The Chinese government is offering financial support to pharmaceutical companies like Chiva who can develop innovative therapies in China for public health needs such as infectious disease and oncology.

Under the terms of the agreement, we have the potential to earn over $100 million in milestones and royalties on potential sales related to our assets. In August 2011, the contract was amended to increase the royalty rates we are eligible to receive on licensed products in return for relinquishing rights to a 10% equity position in Chiva that we were entitled to under the original agreement.

CAPTISOL License and Supply Agreement with The Medicines Company to Develop CAPTISOL-Enabled Clopidogrel

In June 2011, we entered into a CAPTISOL License and Supply Agreement with The Medicines Company for development and commercialization of CAPTISOL-enabled clopidogrel for use as an intravenous drug. Under this License Agreement, we received a $1.8 million upfront payment, of which $0.9 million was remitted to the CyDex CVR holders. We are entitled to potentially receive up to $22 million of milestone payments.

We are also eligible to receive, under the License Agreement, a substantial royalty on worldwide net sales of The Medicines Company’s intravenous clopidogrel formulated with CAPTISOL, and we also expect to manufacture and sell clinical and commercial supplies of CAPTISOL to The Medicines Company.

CAPTISOL Supply Agreement with Merck for Undisclosed Program

In June 2011, we entered into a commercial supply agreement to provide CAPTISOL® to Merck. Under the Supply Agreement, we exclusively licensed intellectual property rights related to CAPTISOL to commercialize the licensed product worldwide and non-exclusively licensed such intellectual property rights and data related to CAPTISOL to engage in activities related to regulatory approval for the licensed product worldwide. The companies also agreed to mutual exclusivity terms.

In consideration for the associated data package and intellectual property rights, Merck agreed to make milestone payments associated with specified regulatory events related to the licensed product. Merck also will pay an increased supply price in lieu of a royalty on net sales of the licensed product.

Fablyn License Agreement with Chiva Pharmaceuticals

In October 2011, we entered into a License Agreement with Chiva Pharmaceuticals, Inc. Under the License Agreement, we granted to Chiva an exclusive worldwide license, with sub-license rights, to our intellectual property rights related to Fablyn, a selective estrogen receptor modulator. Chiva is obligated to pay us a non-refundable license issuance fee of $4 million on or before June 1, 2012. We are also eligible to receive, under the License Agreement, both milestones and royalty payments on worldwide net sales of Fablyn.

CAPTISOL License and Supply Agreement with SAGE Therapeutics

In October 2011, we entered into a License Agreement with SAGE Therapeutics, Inc., or SAGE, granting SAGE 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. Under the License Agreement, we will receive upfront and research support payments, and potentially can receive additional payments if SAGE exercises certain product commercialization options. Upon commercialization, we could potentially receive milestone payments for CAPTISOL-enabled programs, plus tiered royalties on net sales for products that use the CAPTISOL technology. We are also eligible to receive material sales revenue from the shipment of CAPTISOL to SAGE for clinical and commercial activities.

CAPTISOL License and Supply Agreement with Eli Lilly

In December 2011, we entered into a License and Supply Agreement with Eli Lilly ("Lilly") and Company. Under the License Agreement, we granted to Lilly an exclusive, nontransferable license to such intellectual property rights that will enable Lilly to develop and potentially commercialize CAPTISOL-enabled® intravenous oncology therapeutics. Lilly paid us a non-refundable license issuance fee of $1 million. We are also eligible to receive royalty payments on worldwide net sales of any products that are successfully commercialized.

Under the Supply Agreement, Lilly agreed to purchase from us its CAPTISOL requirements for the development of the compounds contemplated by the License Agreement, as well as any CAPTISOL required for any product that is successfully commercialized.

CAPTISOL License and Supply Agreement with Hospira for Undisclosed Program

In December 2011, we entered into a License and Supply Agreement with Hospira, Inc. Under the Agreement, we granted a license in specified territories, with sub-license rights, to such intellectual property rights that will enable the manufacture and sale of certain finished drug products of which CAPTISOL® is a component. The terms of the Agreement call for us to receive a non-refundable license fee of $0.5 million. In addition, we received a pre-payment of $2.5 million, to be applied as a credit toward the first $2.5 million of CAPTISOL supplied under the Agreement. In the event of a termination prior to us supplying $2.5 million of CAPTISOL, we will refund the difference of the value of CAPTISOL supplied and the $2.5 million pre-payment. We are also eligible to receive milestone payments upon the occurrence of certain specified sales goals.

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.

In our efforts to discover new and important medicines, we have concentrated 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 selective estrogen receptor modulators, or 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, are trade secrets, or 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.

In September 1993, CyDex obtained from the University of Kansas, or KU, an exclusive, worldwide license, with the right to sublicense, under the original CAPTISOL patents, as well as intellectual property covering the results generated during specified CyDex-sponsored research activities at KU. We are responsible for maintaining the Drug Master File (“DMF”) for CAPTISOL. KU retained a research license to the technology for noncommercial educational and research purposes, and agreed to assign to us its then-pending license agreements with Pfizer relating to CAPTISOL.

In August 2004, the KU license agreement was amended to replace all future payment terms under the agreement, including royalties, with a concurrent lump sum payment and issuance of CyDex stock to KU. KU also granted us a right of first refusal to acquire exclusive, worldwide rights to any future improvements to CAPTISOL, including any next generation formulations of CAPTISOL, that are developed by KU or by third parties pursuant to research sublicenses granted by KU. KU is obligated to disclose to us in writing any such improvement, and upon receipt of such information, we may exercise our right of first refusal to obtain such an exclusive license upon terms and conditions not materially different than those described in the original KU license agreement. To date, we have not exercised our right of first refusal to acquire any such improvements. The license agreement with KU will remain in force until the expiration of all licensed patents.

In December 1993, as contemplated by our license agreement with KU, KU entered into an option agreement with Pfizer, simultaneously transferring to us all of KU’s rights and obligations under that agreement.

Manufacturing

We currently have no manufacturing facilities and, accordingly, 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 APIs and API intermediates located in Lisbon, Portugal. In December 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 a second site in Macau 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 to pay Hovione an aggregate minimum amount during the agreement term. Hovione must supply amounts exceeding our forecasts by a fixed percent. In January 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 after the commercial production date, which prices may be adjusted based on the following:

- fluctuation in currency exchange rates;
- change in raw material prices;
- change in the Portuguese consumer price index; and
- our 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.

Unless terminated earlier, the agreement will continue until it expires in December 2019. The term will automatically continue after the initial term 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."

Research and Development Expenses

Research and development expenses from continuing operations were $10.3 million, $22.1 million, and $39.9 million in 2011, 2010, and 2009, respectively, of which 99%, 61%, and 47%, respectively, were sponsored by us.

There were no research and development expenses from discontinued operations in 2011, 2010, and 2009.

Competition

Some of the drugs we 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.

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 to us.

For marketing outside the United States before FDA approval to market, we must submit an export permit application to the FDA. We also are subject to foreign regulatory requirements governing human clinical trials and marketing approval for drugs. The requirements relating to the conduct of clinical trials, product licensing, pricing and reimbursement vary widely from country to country and there can be no assurance that we or any of our partners will meet and sustain any such requirements.

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.

Royalties we currently receive from Pfizer, as successor to King on AVINZA represent a portion of our ongoing revenue. The United States patent on AVINZA is not expected to expire until November 2017; however, applications for generic forms of AVINZA have been submitted to the FDA. The last to expire United States patents relating to PROMACTA is not expected to expire until December 2024. The last to expire United States patents related to CAPTISOL is not expected to expire until 2029. Subject to compliance with the terms of the respective agreements, our rights under our licenses with our exclusive licensors 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, 2012, we had 21 full-time employees, of whom 7 are involved directly in scientific research and development activities. Of these employees, 6 hold Ph.D. or M.D. degrees.

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.

Risks Related To Us and Our Business.

Our business has recently undergone a significant change, and we may not be successful in integrating the CAPTISOL technology and CyDex's other development product candidates into our existing operations or in realizing the planned results from our recently expanded product portfolio and pipeline.

In January 2011, we completed our merger with CyDex, in which we obtained the CAPTISOL technology, in addition to other product candidates. We will need to overcome significant challenges in order to realize the benefits from this acquisition. These challenges will include the timely, efficient and successful execution of a number of tasks, including the following:

- integrating CyDex into our existing operations;
- integrating CyDex's developmental product candidates and successfully managing the development and regulatory processes; and
- coordinating with CyDex's and our collaborative partners concerning the development, manufacturing, regulatory and intellectual property protection strategies for CAPTISOL and new development product candidates.

In addition, we rely on our collaborative partners for many aspects of our developmental and commercialization activities, and we are subject to risks related to their financial stability and solvency. We may not succeed in addressing these risks or any other problems encountered in connection with the acquisition of CyDex.

Furthermore, all of CyDex's products and product candidates, as well as the technology that it outlicenses, are based on CAPTISOL. In addition, CyDex or its partners are attempting to develop some product candidates that may contain significantly higher levels of CAPTISOL than in any currently-approved product and has directed developers to demonstrate an adequate safety margin, and specifically acceptable renal safety. If products or product candidates incorporating CAPTISOL technology were to cause any unexpected adverse events, whether in preclinical studies, clinical trials or as commercialized products, whether as a result of CAPTISOL or otherwise, the perception of CAPTISOL safety could be seriously harmed. If this were to occur, we may not be able to market these 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.

Royalties based on sales of AVINZA and PROMACTA represent a substantial portion of our revenues.

Pfizer, as successor to King is obligated to pay us royalties based on its sales of AVINZA and GSK is obligated to pay us royalties on its sales of PROMACTA. These royalties 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 AVINZA or PROMACTA could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for AVINZA and PROMACTA could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products, as well as higher than expected total rebates, returns or discounts.

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

In September 2007, King reported that Actavis, a manufacturer of generic pharmaceutical products headquartered in Iceland, had filed with the FDA an Abbreviated New Drug Application, or ANDA, with a Paragraph IV Certification pertaining to AVINZA, the rights to which were acquired by King from us in February 2007. According to the report, Actavis's Paragraph IV Certification sets forth allegations that U.S. Patent No. 6,066,339, or the 339 patent, which pertains to AVINZA, and which is listed in the FDA's Approved Drug Products With Therapeutic Equivalence Evaluations, will not be infringed by Actavis's manufacture, use, or sale of the product for which the ANDA was submitted. The expiration date for this patent is November 2017. King, King Pharmaceuticals Research and Development, Inc., Elan Corporation, plc, or Elan, and Elan Pharma International Ltd. jointly filed suit in federal district court in New Jersey on October 18, 2007 against Actavis, Inc. and Actavis Elizabeth LLC for patent infringement under the 339 patent. The lawsuit was settled and dismissed without prejudice in July 2011.

In July 2009, King, King Pharmaceuticals Research and Development, Inc., Elan and Elan Pharma International Ltd. jointly filed suit in federal district court in New Jersey against Sandoz Inc., or Sandoz, for patent infringement under the 339 patent. According to the complaint, Sandoz filed an ANDA for morphine sulfate extended release capsules and, in connection with the ANDA filing, Sandoz provided written certification to the FDA alleging that the claims of the 339 patent are invalid, unenforceable and/or will not be infringed by the manufacture, use or sale of Sandoz's proposed morphine product. Similar to the lawsuit against Actavis, this lawsuit seeks a judgment that would, among other things, prevent Sandoz from commercializing its proposed morphine product until after expiration of the 339 patent. Trial was previously expected to be set to start during the second half of 2011, but the court ordered a stay of proceedings starting on May 2, 2011. An adverse judgement on the patent could significantly impact our future revenues.

Our product candidates face significant development and regulatory hurdles prior to marketing which could delay or prevent sales and/or milestone revenue.

Before we or our partners obtain the approvals necessary to sell any of our potential products, we must show through preclinical studies and human testing that each product is safe and effective. We and our partners have a number of products 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 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 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 and the eligibility criteria for the trial. Delays in patient enrollment for our trials may result in increased costs and longer development times. For example, the trial entitled “Eltrombopag To Reduce The Need For Platelet Transfusion In Subjects With Chronic Liver Disease And Thrombocytopenia Undergoing Elective Invasive Procedures (ELEVATE)” was suspended in October 2009 in accordance with an IDMC Recommendation. GSK

terminated the ELEVATE study and the program is under review. In addition, our collaborative partners have rights to control product development and clinical programs for products developed under the collaborations. As a result, these collaborative partners may conduct these programs more slowly or in a different manner than expected. Moreover, even if clinical trials are completed, 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 collaborations with corporate partners and others. These collaborations have provided us with funding and research and development resources for potential products for the treatment of a variety of diseases. However, the funding provided to us by our existing collaborative partners for ongoing research and development under our existing collaborative agreements has ceased. These agreements also 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 product candidates.

In addition, our collaborators may develop drugs, either alone or with others that compete with the types of drugs they are developing with us. This would result in increased competition for our 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 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, our product development under these agreements will be delayed or terminated. Disputes or litigation may also arise with our collaborators, 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.

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.

We currently have one supplier of CAPTISOL, Hovione FarmaCiencia SA, or Hovione, through its agent Hovione LLC. Hovione is a major supplier of APIs and API intermediates located in Lisbon, Portugal. Hovione has other production sites in Cork, Ireland and Macau, China, but those sites are not yet qualified to make CAPTISOL. If a major disaster were to happen at Hovione 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. While we carry a significant inventory of CAPTISOL for this type of occurrence, which should permit us to satisfy our existing supply obligations through 2012 under current and anticipated demand conditions, an unusually large order or two could rapidly deplete that inventory and cause significant problems with our licensees and disrupt our business. In addition, if we fail to supply CAPTISOL under our supply agreements, our customers could obtain the right to have CAPTISOL manufactured by other suppliers, which would significantly harm our business.

We rely on contract manufacturers for the manufacture of CAPTISOL and product candidates, and if these contract manufacturers fail to perform as we expect, we will incur delays in our ability to generate revenue and substantial additional expenses in obtaining new contract manufacturers.

We do not manufacture products or product candidates, but rather contract with contract manufacturers for the manufacture of products and product candidates. With respect to any specific product or product candidate, we only contract with one contract manufacturer due to the high cost of compliance with good manufacturing practices prior to the contract manufacturer being permitted to manufacture the product or product candidate for use in humans. If a contract manufacturer is unable or unwilling to continue to manufacture for us in the future, we would be required to contract with a new contract manufacturer for the specific product or product candidate. In the case of products, this would cause us to lose revenue during the qualification process, and in the case of product candidates, this could cause a delay in the commercialization of the product candidate. In addition, in either case we would incur substantial additional expenses as a result of the new contract manufacturer becoming qualified. Further, if a contract manufacturer were to experience a delay in producing products or product candidates due to a failure to meet strict FDA manufacturing requirements or otherwise, we would also experience a delay in development and commercialization of the product candidate or, in the case of products, sales of the product. This risk is exacerbated in the case of manufacture of injectables, which require heightened sterility and other conditions as well as specialized facilities for preparation.

If we consume cash more quickly than expected, and if we are unable to raise additional capital, we may be forced to curtail operations.

Our operations have consumed substantial amounts of cash since inception. As of December 31, 2011, we had a negative working capital of $11.4 million. Clinical and preclinical development of drug candidates is a long, expensive and uncertain process. Also, we may acquire companies, businesses or products and the consummation of such acquisitions may consume additional cash. For example, as part of the consideration for our recent acquisition of CyDex, we distributed approximately $12.0 million of our cash to CyDex stockholders. In connection with the acquisition, we entered into a $20 million Loan and Security Agreement, or the Loan Agreement, with a lender. Under the terms of the Loan Agreement, we will make interest only payments for one year at a fixed rate of 8.64%, with an option to extend the interest only payments for an additional year, which we intend to exercise. Subsequent to the interest only payments, the note will amortize with principal and interest payments due through the remaining term of the loan. The loan term, including interest only payments, is 42 months.

The Contingent Value Rights Agreement (“CVR Agreement”) that was part of the CyDex acquisition obligated us to pay $4.3 million in January 2012 to the CyDex stockholders. In addition, in the event of a Default (as defined in the CVR Agreement), we would be obligated to deliver to an escrow agent the future cash payments called for under the CVR Agreement. There can be no assurances that in the event of a Default that we would be able to deliver the lump sum payment to the escrow agent.

In March 2011, we borrowed $5.0 million from Square 1 Bank and April 2011 we borrowed an additional $5.0 million from Square 1. All outstanding amounts under the loan bear interest at a floating rate equal to 200 basis points above the prime rate and may become immediately due and payable if we fail to maintain a cash balance at Square 1 of at least $5.0 million. The maturity date of the revolving line of credit facility is March 29, 2012. We paid $4.5 million on our revolving credit facility in January 2012.

In October 2011, we filed a Registration Statement on Form S-3 with the Securities and Exchange Commission (“SEC”) for the issuance and sale of up to $30 million of equity or other securities, proceeds from which will be used for general corporate purposes. The Form S-3 provides additional financial flexibility for the Company to sell shares as needed at any time. To date, no securities have been issued under this registration statement.

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 at their current levels at least for the next twelve months. However, changes may occur that would cause us to consume available capital resources before that time. Examples of relevant potential changes that could impact our capital resources include:

- the costs associated with our drug research and development activities, and additional costs we may incur if our development programs are delayed or are more expensive to implement than we currently anticipate;
- changes in collaborative relationships, including the funding we receive in connection with those relationships;
- the progress of our milestone and royalty producing activities;
- acquisitions of other businesses or technologies;
- the termination of our lease agreements;
- the costs of the closure of our operations at our Cranbury, New Jersey facility;
- the purchase of additional capital equipment;
- cash payments, including CVR payments, or refunds we may be required to make pursuant to certain agreements with third parties;
- competing technological and market developments; and
- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights, and the outcome of related litigation.

Additional capital may not be available on favorable terms, or at all. If additional capital is not available, we may be required to curtail operations significantly, including but not limited to reducing our current headcount, or to obtain funds by entering into arrangements with partners or other third parties that may require us to relinquish rights to certain of our technologies, products or potential markets that we would not otherwise relinquish.

Our collaborative partners may change their strategy or the focus of their development and commercialization efforts with respect to our alliance products, the success of our alliance products 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 alliance products, we could be required to devote additional resources to our alliance products, seek new collaborative partners or abandon such alliance products, all of which could have an adverse effect on our business.

In March 2011, Pfizer completed its acquisition of King, which had purchased the AVINZA product line from us. There can be no assurance of the impact that this acquisition will have on our relationship with Pfizer.

In September 2010, we received notice from GSK that it was exercising its right to terminate the Product Development and Commercialization Agreement, dated as of March 24, 2006 and as amended, among SmithKlineBeecham Corporation, doing business as GlaxoSmithKline, Glaxo Group Limited and Pharmacopeia, LLC, as successor to Pharmacopeia Drug Discovery, Inc. The termination became effective on October 7, 2010. Absent the termination by GSK, the research term under this agreement would have terminated on March 24, 2011. Following termination, we retained rights to the current programs under this agreement and may continue to develop the programs and commercialize any products resulting from the programs, or we may elect to cease progressing the programs and/or seek other partners for further development and commercialization.

In September 2011, we received a notice from MedImmune (a subsidiary of AstraZeneca) that it was exercising its right to terminate the Collaboration and License Agreement, dated April 19, 2001. Upon termination, all materials and know-how related to the IL-9 antibody program by MedImmune was returned to us. MedImmune is required to discuss the granting of a royalty-bearing license to intellectual property with respect to the product licensed under the agreement. However, MedImmune has no obligation to grant such a license or retain the ability to grant such a license. The termination was effective on November 30, 2011.

In October 2011, we received notice from Merck that it was exercising its right to terminate the Collaboration and License Agreement, dated November 24, 2003. The collaboration and licensing program was related to the physiology, pharmacology, chemistry, and potential therapeutic applications and potential clinical utilities related to Vanilloid Receptors, subtype 1, also known as TRPV1. Upon termination, Merck is required to transfer and/or disclose specified materials and know-how to us (which is under an obligation to transfer certain specified materials to Merck). In addition, we will receive an exclusive, perpetual, irrevocable, royalty-free (but subject to any third party royalty obligations), fully-paid, worldwide license, with 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. We will also receive a non-exclusive license to all other know-how Merck deems necessary to sell the specified compounds or products. The termination will be effective on April 18, 2012.

We are currently dependent upon outlicensing business and we may not be successful in entering into additional out-license agreements on favorable terms, which may adversely affect our liquidity or require us to alter development plans on our products.

We have entered into several out-licensing agreements for the development and commercialization of our products. 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 their products using our CAPTISOL technology, fail to satisfy their obligations under their agreements with us, or otherwise 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. Further, under most of our CAPTISOL outlicenses, the amount of royalties we receive will be reduced or will cease when the relevant patent expires. While we have other more recent patents relating to CAPTISOL with later expiration dates (for example, our high purity patent, U.S. Patent No. 7,635,773 is not expected to expire until 2029 and our morphology patent, U.S. Patent No. 7,629,331 is not expected to expire until 2025), the initially filed patents relating to CAPTISOL expired in 2010 in the U.S. and are expected to expire between 2011 and 2016 in most countries outside the U.S. If our other intellectual property rights 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, the source of the vast majority of our CAPTISOL revenue may cease to exist.

Although we expend considerable resources on internal research and development for our proprietary programs, we may not be successful in entering into additional out-licensing agreements under favorable terms due to several factors including:

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

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

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 AVINZA, PROMACTA, VIVIANT and CONBRIZA (bazedoxifene), lasofoxifene, LGD-4665, and any other products or potential products.

Several drug companies and research and academic institutions have developed technologies, filed patent applications or received patents for technologies that may be related to 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, US patent applications may be kept confidential while pending in the United States Patent and Trademark Office and patent applications filed in foreign countries are often first published six months or more after filing.

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.

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

The initially filed patents relating to CAPTISOL expired in 2010 in the U.S. and are expected to expire between 2011 and 2016 in most countries outside the U.S. We have also obtained patent protection in the U.S. through 2025 on Agglomerated form and through 2029 on High Purity form of CAPTISOL. We have obtained patent protection on a number of combinations of APIs and CAPTISOL through three combination patents in the

U.S., and we have applied for six additional combination patents in the U.S. relating to the combination of CAPTISOL with specific APIs. Our U.S. combination patent relating to Fosphenytoin expires June 12, 2018 and our U.S. combination patent relating to Amiodarone expires May 4, 2022. Our U.S. combination patent relating to one of our early-stage product candidates expires March 19, 2022. There is no guarantee that these patents will be sufficient to prevent competitors from creating a generic form of CAPTISOL after 2010 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, including our agreements with Pfizer relating to Geodon IM, Vfend IV and Cerenia, provide that once the relevant patent expires, the amount of royalties we receive will be reduced or eliminated.

Generally, our success will depend on our ability and the ability of 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.

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 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.

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

We were founded in 1987. We have incurred significant losses since our inception. As of December 31, 2011, our accumulated deficit was $681.8 million.

Most of our products in development will require extensive additional development, including preclinical testing and human studies, as well as regulatory approvals, before they can be marketed. We cannot predict if or when any of the products we are developing or those being developed with our partners will be approved for marketing. There are many reasons why we or our collaborative partners may fail in our efforts to develop our potential products, including the possibility that: preclinical testing or human studies may show that our potential

products are ineffective or cause harmful side effects; the products may fail to receive necessary regulatory approvals from the FDA or foreign authorities in a timely manner, or at all; the products, if approved, may not be produced in commercial quantities or at reasonable costs; the products, if approved, may not achieve commercial acceptance; regulatory or governmental authorities may apply restrictions to our products, which could adversely affect their commercial success; or the proprietary rights of other parties may prevent us or our partners from marketing the products.

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

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, we may not realize the anticipated benefits of our mergers. Either of these could have substantial negative impacts on our business and our stock price.

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. We intend to expand product liability insurance coverage to include the sale of commercial products if we obtain marketing approval for any products that we may develop. However, this insurance may be prohibitively expensive, or may not fully cover our potential liabilities. Inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or delay the commercialization of our product candidates. 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 under certain circumstances pursuant to the asset purchase agreements we entered into with Eisai and King 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 King or Eisai could materially and adversely affect our financial condition.

In addition, King assumed our obligation to make payments to Organon based on net sales of AVINZA (the fair value of which was $21.5 million as of December 31, 2011). We remain liable to Organon in the event King 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 and could result in payment of significant amounts of money and divert management's attention from running our business.

If our partners do not reach the market with our alliance products before our competitors offer products for the same or similar uses, or if our partners are not effective in marketing our alliance products, 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 products. In addition, competitors might develop technologies and products that are less expensive and perceived to be safer or more effective than those being developed by us or our partners, which could impair our product development and render our technology obsolete.

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 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 preferred stock without any further action by the stockholders. Such restrictions 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.

We may lose some or all of the value of some of our short-term investments.

We engage one or more third parties to manage some of our cash consistent with an investment policy that allows a range of investments and maturities. The investments are intended to maintain safety of principal while providing liquidity adequate to meet projected cash requirements. Risks of principal loss are to be minimized through diversified short and medium term investments of high quality, but the investments are not in every case guaranteed or fully insured. As a result of changes in the credit market, one of our short-term investments in commercial paper was in default. As a result, we were unable to recoup all of our investment in the commercial paper. In addition, from time to time we may suffer other losses on our short-term investment portfolio.

We may require additional funds to run our business and may be required to raise these funds on terms which are not favorable to us or which reduce our stock price.

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.

In October 2011, we filed a Registration Statement on Form S-3 with the Securities and Exchange Commission ("SEC") for the issuance and sale of up to $30 million of equity or other securities, proceeds from which will be used for general corporate purposes. The Form S-3 provides additional financial flexibility for the Company to sell shares as needed at any time. To date, no securities have been issued under this registration statement.

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

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

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

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

While we expect to fund our research and development activities from cash generated from royalties and 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 U.S. and elsewhere around the world. Continuing concerns over inflation, energy costs, geopolitical issues, the availability and cost of credit, the U.S. mortgage market and a declining residential real estate market in the U.S. have contributed to increased volatility and diminished expectations for the economy and the markets going forward. These factors, combined with volatile oil prices, declining business and consumer confidence and increased unemployment, have precipitated an economic recession and fears of a possible depression. Domestic and international equity markets continue to experience heightened volatility and turmoil. These events and the

continuing market upheavals may have an adverse effect on 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.

Our investment securities consist primarily of money market funds, corporate debt obligations and U.S. government agency securities. We do not have any auction rate securities. Recently, there has been concern in the credit markets regarding the value of a variety of mortgage-backed securities and the resultant effects on various securities markets. 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.

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. In November 2010, we effected a 1-for-6 reverse stock split. We believe the reverse stock split will have the effect of increasing the per share trading price of our common stock. 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.

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

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

As described in Item 9, we identified a material weakness as a result of improper accounting for significant non-routine transactions. Management has determined that the material weakness was a result of inadequate staffing. Since the transaction date which resulted in this material weakness, we have added a corporate controller to our finance and accounting staff. While we had processes to identify and apply accounting standards to complex transactions, we enhanced these processes with the addition of a resource with the ability to research and understand the nuances of complex accounting standards. Given this material weakness, management determined that we did not maintain effective internal control over financial reporting. The existence of one or more material weakness or significant deficiency could result in future errors in our consolidated financial statements. Substantial costs and resources may be required to rectify any internal control deficiencies. If we fail to achieve and maintain the adequacy of our internal controls in accordance with applicable standards, we may be unable to conclude on an ongoing basis that we have effective internal controls over financial reporting. If we cannot produce reliable financial reports, our business and financial condition could be harmed, investors could

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

Impairment charges pertaining to goodwill, identifiable intangible assets or other long-lived assets from our mergers 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 mergers with Pharmacopeia, 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.

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, whether as a result of unidentified risks, integration difficulties, regulatory setbacks 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 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 IPR&D charges. In either case, the incurrence of these charges could adversely affect our results of operations for particular quarterly or annual periods.

Our CyDex facilities are located in a tornado zone, and the occurrence of a tornado or other catastrophic disaster could damage our facilities and equipment, which could cause us to curtail or cease local operations.

Our CyDex facilities are located outside of Kansas City, Kansas, which is in a tornado zone. We are therefore vulnerable to damage from tornados. We are also vulnerable to damage from other types of disasters, such as

power loss, fire, floods and similar events. If any disaster were to occur, our ability to operate our business could be seriously impaired. We are insured against up to $2.6 million in damages resulting from natural disasters, including tornados. We currently may not have adequate insurance 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 approximately 9,000 square feet of office facilities in San Diego, California leased through June 2012. We entered into a new lease for a period of 84 months commencing July 1, 2012, for premises consisting of approximately 16,500 square feet of office and laboratory space located in San Diego to serve as our new 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 31, 2014.

We lease approximately 99,000 square feet in three facilities in Cranbury, New Jersey under leases that expire in 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.

When we acquired Neurogen Corporation in December 2009, they were conducting operations in laboratory and administrative facilities on a single site located in Branford, Connecticut. The total facilities, which were owned by Neurogen comprised approximately 142,000 square feet, of which approximately 21,000 square feet was leased by another company month to month. On February 2, 2010, we sold the facilities and the surrounding land for approximately $3.5 million in cash, less expenses.

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.

Item 4. Mine Safety Disclosures

Not applicable.

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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 (formerly NASDAQ National Market) under the symbol "LGND". These numbers give affect to the 1-for-6 reverse split effected on November 19, 2010.

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, 2011:		
1st Quarter	$11.10	$ 8.64
2nd Quarter	12.06	9.39
3rd Quarter	16.24	10.16
4th Quarter	15.91	10.50
Year Ended December 31, 2010:		
1st Quarter	$13.80	$ 9.30
2nd Quarter	11.64	8.22
3rd Quarter	10.32	8.28
4th Quarter	14.80	8.14

As of February 1, 2012, the closing price of our common stock on the NASDAQ Global Market was $12.81.

Holders

As of February 1, 2012, there were approximately 1,465 holders of record of the common stock.

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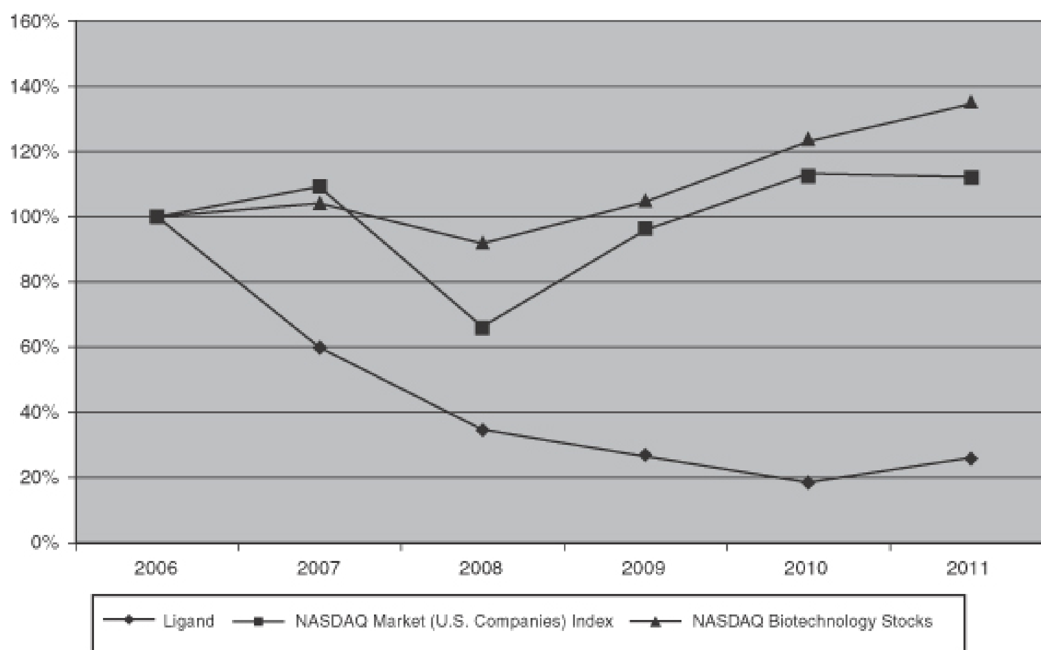
Performance Graph

The graph below shows the five-year cumulative total stockholder return assuming the investment of $100 and the reinvestment of dividends (a one-time dividend of $2.50 was declared on the common stock in April 2007) 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® Index, and of the NASDAQ Biotechnology Stock Index, as prepared by The NASDAQ Stock Market Inc. The NASDAQ Biotechnology Stock Index tracks approximately 168 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.



	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11
Ligand	100%	60%	34%	27%	19%	25%
NASDAQ Market (U.S. Companies) Index	100%	111%	66%	97%	114%	113%
NASDAQ Biotechnology Stocks	100%	105%	92%	106%	123%	137%

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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, 2011, 2010, 2009, 2008, and 2007 and the balance sheet data as of December 31, 2011, 2010, 2009, 2008, and 2007 are derived from our consolidated financial statements.

	Year Ended December 31, (in thousands, except share data)				
	2011	2010	2009	2008	2007
Consolidated Statement of Operations Data:					
Royalties	$ 9,213	$ 7,279	$ 8,334	$ 20,305	$ 11,409
Material sales	12,123	—	—	—	—
Collaborative research and development and other revenues	8,701	16,259	30,606	7,000	1,485
Cost of material sales	4,909	—	—	—	—
Research and development expenses	10,291	22,067	39,870	30,770	44,623
General and administrative expenses	14,977	12,829	15,211	23,785	30,410
Lease exit and termination costs	(22)	16,894	15,235	—	—
Write-off of acquired in-process research and development	2,282	2,754	442	72,000	—
Accretion of deferred gain on sale leaseback	1,702	1,702	21,851	1,964	1,964
Loss from operations	(698)	(29,304)	(9,967)	(97,286)	(60,175)
Income (loss) from continuing operations	10,173	(12,786)	(8,337)	(97,460)	(34,759)
Discontinued operations (1)	3	2,413	6,389	(654)	316,447
Net income (loss)	10,176	(10,373)	(1,948)	(98,114)	281,688
Basic per share amounts:					
Income (loss) from continuing operations	$ 0.52	($ 0.65)	($ 0.44)	($ 6.12)	($ 2.15)
Discontinued operations (1)	—	0.12	0.34	(0.04)	19.62
Net income (loss)	$ 0.52	($ 0.53)	($ 0.10)	($ 6.16)	$ 17.47
Weighted average number of common shares	19,655,632	19,613,201	18,862,751	15,917,570	16,124,731
Diluted per share amounts:					
Income (loss) from continuing operations	$ 0.52	($ 0.65)	($ 0.44)	($ 6.12)	($ 2.12)
Discontinued operations (1)	0	0.12	0.34	(0.04)	19.34
Net income (loss)	$ 0.52	($ 0.53)	($ 0.10)	($ 6.16)	$ 17.22
Weighted average number of common shares	19,713,320	19,613,201	18,862,751	15,917,570	16,354,121

	December 31,				
	2011	2010	2009	2008	2007
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents, short-term investments and restricted cash and investments	$ 18,382	$ 24,038	$ 54,694	$ 82,012	$ 95,819
Working capital (2)	(11,413)	3,531	15,994	23,315	58,975
Total assets	122,350	75,559	141,807	171,448	173,278
Current portion of deferred revenue, net	1,240	—	4,989	10,301	—
Current portion of deferred gain	—	1,702	1,702	1,964	1,964
Long-term obligations (excludes long-term portions of deferred revenue, net and deferred gain)	101,894	36,030	72,350	58,743	53,048
Long-term portion of deferred revenue, net	3,466	2,546	3,495	16,819	2,546
Long-term portion of deferred gain	—	—	1,702	23,292	25,256
Common stock subject to conditional redemption	8,344	8,344	8,344	12,345	12,345
Accumulated deficit	(681,771)	(691,947)	(681,574)	(679,626)	(581,512)
Total stockholders' equity (deficit)	8,646	(4,849)	3,744	(10,365)	29,115

(1) We sold our Oncology Product Line ("Oncology") on October 25, 2006 and our AVINZA Product Line ("AVINZA") on February 26, 2007. The operating results for Oncology and AVINZA have been presented in our consolidated statements of operations as "Discontinued Operations."

(2) Working capital includes deferred product revenue recorded under the sell-through revenue recognition method.

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 AVINZA, PROMACTA 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 trend(s), 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 AVINZA, PROMACTA, 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 release publicly the results of 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., or Seragen; Pharmacopeia, LLC; Neurogen Corporation, CyDex Pharmaceuticals, Inc., Metabasis Therapeutics, and Nexus Equity VI LLC, or Nexus.

Overview

We are a biotechnology company that operates with a business model focused on developing or acquiring revenue generating assets and coupling them to 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 powerful formulation technology that has enabled five FDA approved products, including Pfizer's VFEND® IV and Baxter International's Nexterone® and is currently being used 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. In addition, therapies in development address the unmet medical needs of patients for a broad spectrum of diseases including hepatitis, muscle wasting, Alzheimer's disease, dyslipidemia, diabetes, anemia, asthma, rheumatoid arthritis and osteoporosis. We have established multiple alliances with the world's leading pharmaceutical companies including GlaxoSmithKline, Merck, Pfizer, Baxter International, Bristol-Myers Squibb, Celgene, Onyx Pharmaceuticals, Lundbeck Inc., Eli Lilly & Co., and The Medicines Company.

In January 2011, we completed the acquisition of CyDex Pharmaceuticals, Inc., or CyDex. As a result, we gained revenue from four currently marketed products, a large portfolio of partnered drug development programs, an internal pipeline of proprietary drugs, and the CAPTISOL drug formulation platform technology. CyDex is now a wholly owned subsidiary of Ligand.

In July 2011, we executed a patent license agreement for the exclusive license to make, have made, import, use, sell or offer for sale the compound associated with Fablyn. Fablyn is a selective estrogen receptor modulator product candidate that resulted from a collaboration between Pfizer and us formed to develop therapies for

osteoporosis. In February 2009, Pfizer received approval from the European Commission for Fablyn tablets. In October 2011, we entered into a license agreement with Chiva Pharmaceuticals, Inc. for Fablyn. Under the License Agreement, we granted Chiva an exclusive worldwide license, with sub-license rights, to our intellectual property rights related to Fablyn. Chiva is obligated to pay us a non-refundable license issuance fee of $4.0 million on or before June 1, 2012, of which $2.5 million was received in 2011. We are also eligible to receive, under the License Agreement, both milestones and royalty payments on worldwide net sales of Fablyn.

In October 2011, we entered into a License Agreement with privately-held SAGE Therapeutics, Inc. granting SAGE 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. Under the License Agreement, we will receive upfront and research support payments, and potentially can receive additional payments if SAGE exercises certain product commercialization options. Upon commercialization, we could potentially receive milestone payments for CAPTISOL-enabled programs, plus tiered royalties on net sales for products that use the CAPTISOL technology. We are also eligible to receive commercial revenue from the shipment of CAPTISOL to SAGE for clinical and commercial activities.

In December 2011, we entered into a License and Supply Agreement with Eli Lilly ("Lilly") and Company. Under the License Agreement, we granted to Lilly an exclusive, nontransferable license to such intellectual property rights that will enable Lilly to develop and potentially commercialize CAPTISOL-enabled® intravenous oncology therapeutics. Additionally, Lilly paid us a non-refundable license issuance fee of $1 million. We are also eligible to receive royalty payments on worldwide net sales of any products that are successfully commercialized.

Under the Supply Agreement, Lilly agreed to purchase from us its CAPTISOL requirements for the development of the compounds contemplated by the License Agreement, as well as any CAPTISOL required for any product that is successfully commercialized.

In December 2011, we entered into a License and Supply Agreement with Hospira, Inc. Under the Agreement, we granted a license in specified territories, with sub-license rights, to such intellectual property rights that will enable the manufacture and sale of certain finished drug products of which CAPTISOL® is a component. The terms of the Agreement call for us to receive a non-refundable license fee of $0.5 million. In addition, we received a pre-payment of $2.5 million, to be applied as a credit toward the first $2.5 million of CAPTISOL supplied under the Agreement. In the event of a termination prior to us supplying $2.5 million of CAPTISOL, we will refund the difference of the value of CAPTISOL supplied and the $2.5 million pre-payment. We are also eligible to receive milestone payments upon the occurrence of certain specified sales goals.

In December 2011, our partner Onyx Pharmaceuticals, Inc., or Onyx, announced that the U.S. Food and Drug Administration, or FDA, had granted Standard Review designation to the New Drug Application, or NDA, for carfilzomib for the potential treatment of patients with relapsed and refractory multiple myeloma. The Prescription Drug User Fee Act, or PDUFA, date for completion of review by the FDA of the NDA is July 27, 2012. Carfilzomib is also currently being evaluated in two Phase 3 clinical trials. Under our agreement with Onyx, we are entitled to milestones, royalties and revenue from CAPTISOL material sales.

Metabasis Contingent Value Rights

In January 2010, we completed our acquisition of Metabasis. In addition to cash consideration, we issued four tradable Contingent Value Rights ("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. We have also committed to spend at least $7 million within 30 months and $8 million within 42 months, in new research and development funding on the Metabasis programs. Through December 31, 2011, we estimate that we have spent approximately $5.1 million of the committed amount.

In January 2011, we entered into a strategic relationship with Chiva Pharmaceuticals, Inc. to develop multiple assets and technology in China and potentially worldwide. Chiva was granted licenses 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 the 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 the provision that we could potentially earn a 10% equity position in Chiva as a milestone payment. The amendment's second $0.5 million licensing fee payment was received by us from Chiva in September 2011, of which $0.1 million was remitted to CVR holders.

Results of Operations

Total revenues for 2011 were $30.0 million, compared to $23.5 million in 2010 and $38.9 million in 2009. Our income from continuing operations for 2011 was $10.2 million, or $0.52 per share, compared to losses from continuing operations of $12.8 million, or $0.65 per share in 2010 and $8.3 million, or $0.44 per share, in 2009.

Royalty Revenue

Royalty revenues were $9.2 million in 2011 compared to $7.3 million in 2010 and $8.3 million in 2009. The increase in royalty revenue of $1.9 million for the year ended December 31, 2011 is primarily due to an increase in PROMACTA sales. The decrease in royalty revenue of $1.0 million for the year ended December 31, 2010 is primarily due to lower AVINZA sales, partially offset by an increase in PROMACTA sales.

Collaborative Research and Development and Other Revenue

Collaborative research and development and other revenues for 2011 were $8.7 million compared to $16.3 million in 2010 and $30.6 million in 2009. Collaborative research and development and other revenues include reimbursement for ongoing research activities, earned milestones, and recognition of prior years' up-front fees previously deferred.

A comparison of collaborative research and development and other revenues is as follows (in thousands):

	Year Ended December 31,		
	2011	2010	2009
Collaborative research and development	$ 601	$ 7,734	$23,316
License fees	5,889	6,250	525
Milestones and other	2,211	2,275	6,765
	$8,701	$16,259	$30,606

Collaborative research and development. The decrease of $7.1 million for the year ended December 31, 2011 is due to the termination of research collaboration agreements. The decrease of $15.6 million for the year ended December 31, 2010 is primarily due to the termination of our research collaboration agreements throughout the year.

License fees. License fees in 2011 reflect $2.5 million for the license of Fablyn to Chiva, $1.3 million related to a CAPTISOL platform license, and $2 million related to licenses for internally developed programs. License fees in 2010 reflect the licensing of several compounds upon the termination of research collaborations. License fees in 2009 reflect licenses for internally developed programs.

Milestones and Other. Milestones and other revenue in 2011 primarily reflect milestones earned from CAPTISOL related programs, as well as $1.2 million relating to the sale of future royalty rights which had previously been deferred. Milestones in 2010 reflect $2.3 million received from Roche related to the initiation of a Phase I clinical trial under an agreement acquired from Metabasis. Milestones in 2009 reflect $4.0 million received from Merck in connection with lead identification and transferred programs, $1.3 million received from GSK for lead identification and $1.5 million from Pfizer related to NDA filings.

Research and Development Expenses

Research and development expenses were $10.3 million in 2011 compared to $22.1 million in 2010 and $39.9 million in 2009. The major components of research and development expenses are as follows (in thousands):

	Years Ended December 31,		
	2011	2010	2009
Research performed under collaboration agreements	$ 0	$ 8,670	$21,194
Internal research programs	8,741	10,877	12,963
Total research	$ 8,741	$19,547	$34,157
Development costs	1,550	2,520	5,713
Total research and development	$10,291	$22,067	$39,870

The decrease in research and development expenses of $11.8 million for the year ended December 31, 2011 was primarily due to $8.7 million of costs associated with collaboration agreements that were terminated as well as $3.1 million of other costs associated with internal research programs. The decrease in research and development expenses of $17.8 million for the year ended December 31, 2010 was primarily due to $12.5 million of costs associated with collaboration agreements that were terminated, $3.2 million of costs associated with clinical trials and $1.8 million in reduced headcount related and other costs associated with internal research 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
Selective Androgen Receptor Modulators (SARMs) (agonists)	Muscle wasting and frailty	Phase I
CAPTISOL-Enabled Melphalan I	Oncology	Phase II
CAPTISOL-Enabled Topiramate IV	Epilepsy/Seizures	Preclinical
Glucagon receptor antagonists	Diabetes	Preclinical
IRAK4 inhibitor	Inflammation/Oncology	Research

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 EMEA, 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 of 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. Risks Factors” for additional discussion of the uncertainties surrounding our research and development initiatives.

General and Administrative Expenses

General and administrative expenses were $15.0 million for 2011, compared to $12.8 million for 2010 and $15.2 million for 2009. The increase in general and administrative expenses in 2011 is primarily due to costs to operate the CyDex business and an increase in non-cash stock based compensation expenses.

The decrease in general and administrative expenses of $2.4 million for the year ended December 31, 2010 was primarily due to $0.9 million of lower headcount related costs as a result of staff reductions, $3.9 million of lower facilities costs as a result of our lease termination in 2009 and $1.4 million of lower legal costs, partially offset by lower allocations to research and development of $3.5 million.

Lease Exit and Termination Costs

In September 2010, we ceased use of our facility located in Cranbury, New Jersey. As a result, we recorded lease exit costs of $9.7 million for costs related to the difference between the remaining lease obligations of the abandoned operating leases, which run through August 2016, and management’s estimate of potential future sublease income, discounted to present value. Actual future sublease income may differ materially from our estimate, which would result in us recording additional expense or reductions in expense. In addition, we wrote-off approximately $5.4 million of property and equipment related to the facility closure. We also recorded approximately $1.8 million of severance related costs.

In August 2009, we entered into a lease termination agreement for our corporate facility in San Diego. Under the terms of the agreement, we paid a termination fee of $14.3 million as follows: $4.5 million was paid upon signing, $4.5 million was paid in July 2010 and $5.3 million was paid in April 2011. As a result, during the year ended December 31, 2009, we recorded lease termination costs of $15.2 million, which includes the net present value of the lease termination payments of $14.3 million and $0.9 million of other costs associated with the lease termination.

Write-off of in-process research and development

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.

In November 2010, Roche notified us that they were exercising their right to terminate the collaboration and license agreement with our subsidiary, Metabasis. As a result, we reviewed the carrying amount of the intangible asset related to this agreement. Based on our analysis of available information, we determined that the asset

would not generate any future cash flow. Therefore, we wrote-off the $2.8 million of acquired in-process research and development associated with the agreement during the year ended December 31, 2010.

As a result of adjustments to our purchase price allocation related to our acquisition of Pharmacopeia in December 2008, we wrote-off an additional $0.4 million of acquired in-process research and development during the year ended December 31, 2009.

Accretion of Deferred Gain on Sale Leaseback

In October 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 August 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 years ended December 31, 2011, 2010 and 2009 was $1.7 million, $1.7 million and $21.9 million, respectively.

Interest Income

Interest income was $42,000 for 2011, compared to $0.4 million for 2010 and $0.6 million for 2009. The decreases from 2011 to 2010 and from 2010 to 2009 are due to lower invested balances and lower interest rates.

Change in Liability for Contingent Value Rights

We recorded an increase in the liability for CVRs of $0.4 million for 2011, compared to a decrease of $9.1 million for 2010. The change relates to our liability for amounts potentially due to holders of CVRs associated with our Metabasis and CyDex acquisitions. The Metabasis CVR liability is marked-to-market at each reporting period based upon the quoted market prices of the underlying CVR. The CyDex CVR liability is marked-to-market at each reporting period based upon a discounted cash flow analysis. The change in fair value is recorded in our consolidated statements of operations. The carrying amount of the liability may fluctuate significantly based upon quoted market prices and actual amounts paid under the CVR agreements may be materially different than the carrying amount of the liability.

Other, net

We recorded other income of $0.7 million for 2011, compared to other income of $4.4 million for 2010 and other expense of $0.2 million for 2009. Other income for 2011 primarily relates to income related to the gain on the sale of property and equipment. Other income for 2010 primarily relates to grants totaling $2.0 million in response to applications submitted for qualified investments in a qualifying therapeutic discovery project under section 48D of the Internal Revenue Code, $1.5 million in realized gains on investments, $0.5 million reduction in warrant liability and $0.4 million of gain on the sale of property and equipment. Other expense for 2009 relates to losses from abandoning property and equipment.

Income Taxes

During 2011, we recorded an income tax benefit of $13.1 million related to the release of a portion of our valuation allowance against deferred tax assets which can be used to offset deferred tax liabilities recorded in connection with our acquisition of CyDex in January 2011.

During 2010, we recorded an income tax benefit of $2.6 million related to the reversal of estimated interest for a proposed substantial underpayment of tax in fiscal 2007. During 2009, the IRS issued to us a Notice of Proposed Adjustment, or NOPA, seeking an increase to our taxable income for the 2007 fiscal year of $71.5 million and a $4.1 million penalty for substantial underpayment of tax in fiscal 2007. We recorded a liability for uncertain tax positions of $25.1 million related to the income tax effect of the NOPA and $3.0 million related to estimated interest due on the proposed underpayment of tax. We also recorded deferred income tax assets of $25.1 million associated with the ability to carry back losses from 2008 and 2009 to offset the NOPA. In addition, we recorded an income tax receivable of $4.5 million associated with changes in income tax law in relation to prior AMT taxes paid on carry back periods. In November 2010, the IRS granted us an extension of time to make a closing-of-the-books election with respect to an ownership change, within the meaning of section 382 of the Internal Revenue Code, for the 2007 tax year. We filed an amended 2007 federal tax return in the fourth quarter of 2010. In addition, in January 2011, we were notified by the IRS that they had completed their examination resulting in no changes to the taxes for our 2007 tax year.

During 2009, we recorded an income tax benefit of $1.5 million as a result of the NOPA discussed above. We recorded an income tax receivable of $4.5 million associated with changes in income tax law in relation to prior AMT taxes paid on carry back periods partially offset by $3.0 million of interest for the proposed substantial underpayment of tax in fiscal 2007.

At December 31, 2011, we had federal net operating loss carryforwards set to expire through 2031 of $456.0 million and $165.9 million of state net operating loss carryforwards. We also had $16.4 million of federal research and development credit carryforwards, $1.2 million of which expired at the beginning of 2011, with the remainder expiring through 2027, leaving $15.2 million remaining going into 2012. We have $10.3 million of California and New Jersey research and development credit carryforwards that have no expiration date.

Pursuant to Internal Revenue Code Sections 382 and 383, use of net operating loss and credit carryforwards may be limited if there were changes in ownership of more than 50%. As a result of ownership changes, utilization of our net operating losses and credits are subject to limitations under Internal Revenue Code Sections 382 and 383.

Discontinued Operations

Oncology Product Line

In 2006, we sold our Oncology product line to Eisai, including, among other things, all related inventory, equipment, records and intellectual property, and assumed certain liabilities. For the years ended December 31, 2011, 2010 and 2009, we recognized pre-tax gains of $3,000, $0.2 million, and $1.0 million, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date.

AVINZA Product Line

In 2007, we sold AVINZA purchase agreement pursuant to King, including, among other things, all AVINZA inventory, records and related intellectual property, and assume certain liabilities.

For the years ended December 31, 2011, 2010, and 2009, we recognized pre-tax gains of $0, $2.2 million and $5.4 million, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date.

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, 2011, our accumulated deficit was $681.8 million and we had negative working capital of $11.4 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 sales, as well as 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 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 Pharmacopeia, Inc. (“Pharmacopeia”), Neurogen Corporation (“Neurogen”), Metabasis Therapeutics, Inc. (“Metabasis”) and CyDex Pharmaceuticals, Inc. (“CyDex”). 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 August 2009, we entered into a lease termination agreement for our corporate facility in San Diego. Under the terms of the agreement, we paid a termination fee of $14.3 million as follows: $4.5 million was paid upon signing, $4.5 million was paid in July 2010 and $5.3 million was paid in April 2011. In addition, we entered into a new lease for a period of 27 months commencing October 2009, for premises consisting of office and lab space located in San Diego to serve as our new corporate headquarters.

In January 2011, we used $12.0 million of our existing cash, cash equivalents and short-term investments for the acquisition of CyDex. In connection with the acquisition, we entered into a $20 million Loan and Security Agreement, or the Loan Agreement, with Oxford Financial Group. Under the terms of the Loan Agreement, we made interest only payments for one year at a fixed rate of 8.64%, with an option to extend the interest only payments for an additional year, which we exercised on January 18, 2012. The interest only payments will continue through March 1, 2013. This election did not change the August 1, 2014 maturity date of the term loan.

In March 2011, we entered into a Loan and Security Agreement, or the Commercial Loan, with our commercial bank, Square 1 Bank, or Square 1. The Commercial Loan established a cash-collateralized revolving line of credit facility under which Square 1 agreed to loan up to $5.0 million to us. We immediately borrowed the full $5.0 million.

In April 2011, we entered into an amended Loan and Security Agreement (the “Square 1 Amended Loan”) with Square 1. The Square 1 Amended Loan increased a cash-collateralized revolving line of credit facility by $5.0 million under which Square 1 agreed to loan up to $10.0 million to the Company. We immediately borrowed the additional $5.0 million. All outstanding amounts under the Agreement bear interest at a floating rate equal to 200 basis points above the prime rate. Interest is payable on a monthly basis. The maturity date of the revolving line of credit facility is March 29, 2012.

In October 2011, we filed a Registration Statement on Form S-3 with the Securities and Exchange Commission (“SEC”) for the issuance and sale of up to $30 million of equity or other securities, proceeds from

which will be used for general corporate purposes. The Form S-3 provides additional financial flexibility for the Company to sell shares or other securities as needed at any time. To date, no securities have been issued under this registration statement.

In January 2012, we entered into a Fourth Amendment to the Loan and Security Agreement with Oxford Financial Group. The Fourth Amendment to Loan and Security Agreement increased the Loan and Security Agreement's secured term loan credit facility from $20 million to up to $30 million; we immediately borrowed $7.5 million of the additionally-authorized $10 million against two Secured Promissory Notes. We have the right until April 30, 2012 to elect to borrow the remaining available $2.5 million. The additional $7.5 million loan bears interest at (and the additional $2.5 million loan would bear interest at) a fixed rate equal to the greater of (i) 8.81% per year and (ii) the sum of (a) 8.34% plus (b) the 3-month LIBOR rate reported in The Wall Street Journal three business days before the loan amounts are funded to us, which interest, along with amortized principal, is payable on a monthly basis. Amortization of the entire $27.5 million due to Oxford commences on March 1, 2013 and the maturity date of the term loan is August 1, 2014, and the other material terms of the Loan and Security Agreement remain unchanged. Following the borrowing, we immediately paid down $4.5 million on our revolving credit facility.

In connection with the acquisition of CyDex Pharmaceuticals, Inc. on January 24, 2011, we issued a series of Contingent Value Rights ("CVR"). We paid the CVR holders $4.3 million in January 2012 and may be required to pay up to an additional $9.5 million upon achievement of certain milestones. In 2011, $0.9 million was paid to the CyDex Shareholders upon completion of a licensing agreement with The Medicines Company 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. In addition, we will pay CyDex shareholders, for each respective year from 2011 through 2016, 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 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.

The CyDex CVR Agreement requires us to, in the event of a Default, deliver to an escrow agent the future cash payments described above, and such amounts would then be delivered by the escrow agent to the CyDex shareholders if, as and when they would have by the CVR Agreement been required to be delivered by us. "Default" includes the following, subject to certain cure rights: (a) we fail to pay to the Shareholders' Account any amount as and when required under the CVR Agreement, (b) at any time we are obligated for more than $35.0 million of financial indebtedness (other than financial indebtedness which is expressly subordinated to all obligations of Ligand under the CVR Agreement pursuant to a written subordination agreement signed by and reasonably acceptable to the Shareholders' Representative), (c) at any time after March 15, 2011 our cash, cash equivalents and short-term investments is less than $10.0 million, or (d) we commit any material breach of the CVR Agreement. Pursuant to the CVR Agreement, the shareholders' representative on behalf of the former CyDex shareholders has recently filed a notice of objection with us regarding the calculation of payments due to the CyDex former shareholders for the first and second quarters of 2011. In addition, the shareholders' representative has claimed that we exceeded the $35 million financial indebtedness limitation contained in the CVR Agreement. We disagree with these claims and intends to work with the shareholders' representative to resolve the claims. If we and the shareholders' representative fail to agree, the claims may be resolved through arbitration.

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. For 2011, we estimate that we have exceeded our committed amount.

Based on management's plans, including increases in CAPTISOL® sales and royalty revenues, as well as anticipated new license revenue and expense reductions, if necessary, we believe our currently 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 magnitude 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 our partners' commercial products; the efforts of our collaborative partners; obligations under our operating lease agreements and lease termination agreement; and the capital requirements of any companies we may acquire, including 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.

Operating Activities

Operating activities used cash of $1.2 million in 2011, $27.1 million in 2010, and $33.8 million in 2009.

The use of cash in 2011 reflects net income of $10.2 million, adjusted by $5.4 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 $13.1 million, accretion of deferred gain on sale leaseback transaction of $1.7 million and gain on asset write-offs of $0.5 million, partially offset by a non-cash change in estimated value of contingent value rights of $1.3 million, 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 $2.2 million, and a decrease in other liabilities of $0.9 million.

The use of cash in 2010 reflects a net loss of $10.4 million, adjusted by $2.4 million of gain from discontinued operations and $10.2 million of non-cash items to reconcile the net loss to net cash used in operations. These reconciling items primarily reflect non-cash lease costs of $9.0 million, a write-off of acquired in-process research and development of $2.8 million, the recognition of $2.3 million of stock-based compensation expense, depreciation of assets of $2.2 million and the write-off of assets of $5.3 million, partially offset by the change in estimated fair value of contingent value rights of $9.1 million, accretion of deferred gain on the sale leaseback of the building of $1.7 million and gain on investments of $0.6 million. The use of cash in 2010 is further impacted by changes in operating assets and liabilities due primarily to decreases in accounts payable and accrued liabilities of $13.4 million, a decrease in deferred revenue of $5.9 million, an increase in other current assets of $3.9 million, a decrease in other liabilities of $0.7 million and an increase in accounts receivable, net of $0.4 million. Net cash provided by operating activities of discontinued operations was $0.2 million in 2010.

The use of cash in 2009 reflects a net loss of $1.9 million, adjusted by $7.9 million of gain from discontinued operations and $4.0 million of non-cash items to reconcile the net loss to net cash used in operations. These reconciling items primarily reflect the accretion of deferred gain on the sale leaseback of the building of $21.9 million, non-cash development milestone revenue of $0.9 million and gain on investments of $0.2 million, partially offset by non-cash lease costs of $9.8 million, a write-off of acquired in-process research and development of $0.4 million, non-cash exit and restructuring costs of $0.3 million, the recognition of $3.4 million of stock-based compensation expense, depreciation of assets of $3.1 million, impairment and amortization of acquired intangible assets of $1.5 million, and the write-off of assets of $0.5 million. The use of cash in 2009 is further impacted by changes in operating assets and liabilities due primarily to decreases in accounts payable and accrued liabilities of $11.0 million, a decrease in deferred revenue of $14.3 million, a decrease in other liabilities of $2.3 million and an increase in accounts receivable, net of $0.6 million. These

increases were partially offset by decreases in other current assets of $1.1 million and the release of the restricted indemnity account of $10.3 million. Net cash used in operating activities of discontinued operations was $3.2 million in 2009.

Investing Activities

Investing activities used cash of $25.2 million in 2011, $14.5 million in 2010 and $24.8 million in 2009.

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.

Cash provided by investing activities in 2010 primarily reflects the net sales of short-term investments of $18.5 million and $0.6 million of proceeds from sale of property and equipment, partially offset by $4.1 million of cash paid for acquisitions. None of the cash provided by investing activities for 2010 related to discontinued operations.

Cash provided by investing activities in 2009 primarily reflects the net sales of short-term investments of $15.0 million and $9.8 million of net cash acquired from our merger with Neurogen. None of the cash provided by investing activities for 2009 related to discontinued operations.

Financing Activities

Financing activities provided cash of $30.1 million in 2011, and used cash of $0.2 million in 2010 and $3.7 million in 2009.

Cash used in 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.

Cash used in financing activities in 2010 primarily reflects payments under equipment financing obligations of $0.1 million and repurchases of common stock of $0.1 million. None of the cash used in financing activities for 2010 related to discontinued operations.

Cash used in financing activities in 2009 primarily reflects payments under equipment financing obligations of $0.5 million and the repayment of debt of $3.4 million related to an equipment line of credit acquired from Pharmacopeia that was paid off in January 2009, partially offset by proceeds from the issuance of common stock of $0.2 million. None of the cash used in financing activities for 2009 related to discontinued operations.

Other

In July 2007, we purchased $5.0 million of commercial paper issued by Golden Key Ltd. The investment was highly-rated and within our investment policy at the time of purchase, but during the third quarter of 2007, large credit rating agencies downgraded the quality of this security. In addition, as a result of not meeting certain liquidity covenants, the assets of Golden Key Ltd. were assigned to a trustee who established a committee of the largest senior credit holders to determine the next steps. Subsequently, Golden Key Ltd. defaulted on its obligation to settle the security on the stated maturity date of October 10, 2007. During 2010, the assets of Golden Key Ltd. were sold through an auction process and, as a result, the Company received a final cash distribution of approximately $2.9 million, of which $1.4 million was recognized as a gain.

In connection with the acquisition of Pharmacopeia on December 23, 2008, Pharmacopeia security holders received a contingent value right that entitled them to an aggregate cash payment of $15.0 million under certain circumstances. The contingent value right expired on December 31, 2011.

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In connection with the acquisition of Neurogen Corporation on December 23, 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. At December 31, 2011 and 2010, the aggregate fair values of the Aplindore, VR1 and H3 CVR's were $0.7 million and $0.7 million, respectively, and included in other long-term liabilities in the accompanying balance sheets as management is unable to estimate the timing of potential future payments.

In connection with the acquisition of Metabasis Therapeutics on January 27, 2010, Metabasis security holders received CVRs under four CVR agreements. The CVRs entitle the holders to cash payments upon the sale or licensing of certain assets and upon the achievement of specified milestones. The fair value of the liability at December 31, 2011 and 2010 was $1.1 million and $0, respectively.

In connection with the acquisition of CyDex Pharmaceuticals, Inc. on January 24, 2011, we issued a series of Contingent Value Rights. We paid a CVR of $4.3 million in January 2012 and may be required to pay up to an additional $9.5 million upon achievement of certain milestones. In 2011, $0.9 million was paid to the CyDex Shareholders upon completion of a licensing agreement with The Medicines Company for the CAPTISOL enabled Intravenous formulation of Clopidogrel. An additional $2 million was paid to the CyDex Shareholders upon acceptance by the FDA of Onyx's NDA. In addition, we will pay CyDex shareholders, for each respective year from 2011 through 2016, 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; 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. The fair value of the liability at December 31, 2011 was $16.5 million.

Leases and Off-Balance Sheet Arrangements

We lease our office and research facilities under operating lease arrangements with varying terms through November 2021. The agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases ranging from 3% to 7%. Commencing January 2008, we also sublease a portion of our facilities through July 2015. The sublease agreement provides for a 3% increase in annual rents. We had no off-balance sheet arrangements at December 31, 2011 and 2010.

Contractual Obligations

As of December 31, 2011, future minimum payments due under our contractual obligations are as follows (in thousands):

	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations (1)	$25,035	$ 5,603	$11,095	$7,061	$ 1,276
Total contractual obligations	$25,035	$ 5,603	$11,095	$7,061	$ 1,276

(1) We lease an office and research facility under an operating lease arrangement through July 2015. Commencing January 2008, we sublet this facility through July 2015. The sublease agreement provides for a 3% increase in annual rents. As of December 31, 2011, we expect to receive aggregate future minimum lease payments totaling $4.1 million (nondiscounted) over the duration of the sublease agreement as follows and not included in the table above: less than one year, $1 million; one to three years, $2.3 million; three to five years, $0.8 million; and more than five years, $0.

We outsource the production of CAPTISOL to Hovione, LLC. Under the terms of the supply agreement with Hovione, the Company has ongoing minimum annual purchase commitments and is required to purchase a total of $15 million of CAPTISOL over the term of the supply agreement which expires in December 2019.

Through December 31, 2011, we have spent approximately $12.9 million towards that commitment. Either party may terminate the Agreement for the uncured material breach or bankruptcy of the other party or an extended force majeure event. The Company may also terminate the supply agreement for extended supply interruption, regulatory action related to CAPTISOL or other specified events.

Under the terms of our merger with Metabasis, we are committed to spend at least $7 million within 30 months following the close of the transaction and $8.0 million within 42 months in new research and development funding on the Metabasis programs. Through December 31, 2011, we estimate that we have spent approximately $5.1 million of the committed amount. We are also required under our CyDex CVR Agreement to invest at least $1.5 million per year, inclusive of employee expenses, in the acquired business, through 2015. Through December 31, 2011, we estimate that we have exceeded our committed amount.

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

Material sales revenue is recognized upon transfer of title, which normally passes to the buyer upon shipment to the customer.

Royalties on sales of products commercialized by our partners are recognized in the quarter reported by the respective partner.

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 services or performance.

Revenue from 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.

Inventory

Inventory is stated at the lower of cost or market. 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.

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 for 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 ($95.2 million as of January 2006), 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, January 2006.

In connection with the AVINZA sale transaction, King assumed our obligation to make payments to Organon based on net sales of AVINZA (the fair value of which approximated $21.5 million as of December 31, 2011). As Organon has not consented to the legal assignment of the co-promote termination obligation from us to King, we remain liable to Organon in the event of King's default of this obligation. Therefore, we recorded an asset on February 26, 2007 to recognize King'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 King and is recorded at its fair value. As of December 31, 2011 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 King 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, 2011 and 2010, the fair value of the co-promote termination liability (and the corresponding receivable) was determined using a discount rate of 15%.

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, 2011, we believe that the future undiscounted 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 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. During 2009, the IRS issued to us a Notice of Proposed Adjustment, or NOPA, seeking an increase to our taxable income for the 2007 fiscal year of $71.5 million and a $4.1 million penalty for substantial underpayment of tax in fiscal 2007. We recorded a liability for uncertain tax positions of $25.1 million related to the income tax effect of the NOPA and $3.0 million related to estimated interest due on the proposed underpayment of tax. We also recorded deferred income tax assets of $25.1 million associated with the ability to carry back losses from 2008 and 2009 to offset the NOPA. In addition, we recorded an income tax receivable of $4.5 million associated with changes in income tax law in relation to prior AMT taxes paid on carry back periods. In November 2010, the IRS granted us an extension of time to make a closing-of-the-books election with respect to an ownership change, within the meaning of section 382 of the Internal Revenue Code, for the 2007 tax year. We filed an amended 2007 federal tax return in the

fourth quarter of 2010. In January 2011, we were notified by the IRS that they had completed their examination resulting in no changes to the taxes for our 2007 tax year. As of December 31, 2011, 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.

Stock-Based Compensation

Stock-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 $3.4 million, $2.3 million and $3.4 million for 2011, 2010 and 2009, 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:

	Years Ended December 31,		
	2011	2010	2009
Risk-free interest rate	2.5%	2.7%	2.1%
Dividend yield	—	—	—
Expected volatility	69%	72%	74%
Expected term	6 years	6 years	6 years

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 selecting this assumption, we used the historical volatility of our stock price over a period equal to the expected term. Changes in the assumptions used to estimate the fair value of stock-based compensation would impact the amount of compensation expenses recognized during the period.

New Accounting Pronouncements

In October 2009, the FASB issued Accounting Standards Update ("ASU") No. 2009-13, *Multiple-Deliverable Revenue Arrangements*, or ASU 2009-13, which amends existing revenue recognition accounting pronouncements that are currently within the scope of ASC 605. This guidance eliminates the requirement to establish the fair value of undelivered products and services and instead provides for separate revenue recognition based upon management's estimate of the selling price for an undelivered item when there is no other means to determine the fair value of that undelivered item. ASU 2009-13 is effective for us prospectively for revenue arrangements entered into or materially modified beginning January 1, 2011. Our adoption of this amendment had no material impact on our consolidated financial statements.

In May 2011, the FASB issued ASU 2011-04, *Fair Value Measurement (Topic 820) – Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs*." This ASU represents the converged guidance of the FASB and the IASB (the Boards) on fair value measurement. The collective efforts of the Boards and their staffs, reflected in ASU No. 2011-04, have resulted in common requirements for measuring fair value and for disclosing information about fair value measurements, including a consistent meaning of the term "fair value." ASU No. 2011-04 amends ASC 820, *Fair Value Measurements and*

Disclosures to provide guidance on how fair value measurement should be applied where existing U.S. GAAP already requires or permits fair value measurements. This ASU does not extend the use of fair value, but rather provides guidance on application. In addition, ASU No. 2011-04 requires expanded disclosures regarding fair value measurements. Our adoption of this standard had no impact on our consolidated financial position, results of operations or cash flows.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income (Topic 220) – Presentation of Comprehensive Income.* This ASU amends Topic 220, *Comprehensive Income*, to allow an entity the option to present the total of comprehensive income, the components of net income, and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. In both choices, an entity is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. ASU No. 2011-05 eliminates the option to present the components of other comprehensive income as part of the statement of changes in shareholders' investment. The amendments to the Codification in the ASU do not change the items that must be reported in other comprehensive income or when an item of other comprehensive income must be reclassified to net income. The provisions of ASU No. 2011-05 should be applied retrospectively and are effective for fiscal years, and interim periods within those years, beginning after December 15, 2011 which, for the Company, will be the beginning of fiscal year 2013. Early adoption is permitted. The Company is currently evaluating the impact of this new guidance, but does not expect the adoption of ASU No. 2011-05 to have a material impact on its consolidated financial statements.

In September 2011, the FASB issued ASU 2011-08, *Intangibles – Goodwill and other: testing for goodwill impairment*, which, among other things, amends *Accounting Standards Topic 350 Intangibles – Goodwill and Other*, to allow entities to use a qualitative approach to test goodwill for impairment. ASU 2011-08 permits an entity to first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If it is concluded that this is the case, it is necessary to perform the currently prescribed two-step goodwill impairment test. Otherwise, the two-step goodwill impairment test is not required. Our adoption of this standard had no impact on our consolidated financial position, results of operations or cash flows.

In December 2011, the FASB issued ASU 2011-12, *Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income* in ASU 2011-12. The amendments in ASU 2011-12 defer the changes in ASU 2011-05 that relate to the presentation of reclassification adjustments out of accumulated other comprehensive income. The amendments in this ASU are effective for public entities for fiscal years, and interim periods within those years, beginning after December 15, 2011. See above for the provisions of ASU 2011-05.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

At December 31, 2011, our investment portfolio included fixed-income securities of $10 million. These securities are subject to interest rate risk and will decline in value if interest rates increase. However, due to the short duration of our investment portfolio, an immediate 10% change in interest rates would have no material impact on our financial condition, results of operations or cash flows. Declines in interest rates over time will, however, reduce our interest income.

We do not have a significant level of transactions denominated in currencies other than U.S. dollars and as a result we have very limited foreign currency exchange rate risk. The effect of an immediate 10% change in foreign exchange rates would have no material 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

The 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, 2011 and 2010, and the related consolidated statements of operations, shareholders' equity (deficit) and comprehensive loss, and cash flows for each of the three years in the period ended December 31, 2011. 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, 2011 and 2010, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2011, 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, 2011, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and our report dated February 23, 2012 expressed an adverse opinion.

/s/ GRANT THORNTON LLP

San Diego, California
February 23, 2012

LIGAND PHARMACEUTICALS INCORPORATED

CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	December 31,	
	2011	2010
ASSETS		
Current assets:		
Cash and cash equivalents	$ 7,041	$ 3,346
Short-term investments	10,000	19,351
Accounts receivable, net	6,110	993
Inventory	1,301	—
Deferred income taxes	237	—
Other current assets	1,344	720
Income tax receivable	—	4,575
Current portion of co-promote termination payments receivable	6,197	8,034
Total current assets	32,230	37,019
Restricted cash and investments	1,341	1,341
Property and equipment, net	455	559
Intangible assets, net	57,437	12,251
Goodwill	14,894	700
Long-term portion of co-promote termination payments receivable	15,255	22,851
Other assets	738	838
Total assets	$ 122,350	$ 75,559
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	$ 11,065	$ 8,597
Accrued liabilities	8,262	8,859
Accrued litigation settlement costs	—	1,000
Current portion of liability for contingent value rights	6,879	—
Current portion of deferred gain	—	1,702
Bank line of credit	10,000	—
Current portion of co-promote termination liability	6,197	8,034
Current portion of lease termination payments	—	5,296
Current portion of deferred revenue	1,240	—
Total current liabilities	43,643	33,488
Long-term portion of note payable	20,286	—
Long-term portion of co-promote termination liability	15,255	22,851
Long-term portion of deferred revenue, net	3,466	2,546
Long-term portion of lease exit obligations	8,367	11,118
Deferred income taxes	2,522	372
Long-term portion of liability for contingent value rights	11,433	700
Other long-term liabilities	388	989
Total liabilities	105,360	72,064
Commitments and contingencies		
Common stock subject to conditional redemption; 112,371 shares issued and outstanding at December 31, 2011 and 2010, respectively	8,344	8,344
Stockholders' equity (deficit):		
Common stock, $0.001 par value; 33,333,333 shares authorized; 20,682,506 and 20,620,917 shares issued at December 31, 2011 and 2010, respectively	21	21
Additional paid-in capital	732,676	729,271
Accumulated other comprehensive income	—	31
Accumulated deficit	(681,771)	(691,947)
Treasury stock, at cost; 1,118,222 and 1,111,999 shares at December 31, 2011 and 2010, respectively	(42,280)	(42,225)
Total stockholders' equity (deficit)	8,646	(4,849)
Total liabilities and stockholders' equity (deficit)	$ 122,350	$ 75,559

See accompanying notes to these consolidated financial statements.

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LIGAND PHARMACEUTICALS INCORPORATED

CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share data)

	Year Ended December 31,		
	2011	2010	2009
Revenues:			
Royalties	$ 9,213	$ 7,279	$ 8,334
Material Sales	12,123	—	—
Collaborative research and development and other revenues	8,701	16,259	30,606
Total revenues	30,037	23,538	38,940
Operating costs and expenses:			
Cost of material sales	4,909	—	—
Research and development	10,291	22,067	39,870
General and administrative	14,977	12,829	15,211
Lease exit and termination costs	(22)	16,894	15,235
Write-off of acquired in-process research and development	2,282	2,754	442
Total operating costs and expenses	32,437	54,544	70,758
Accretion of deferred gain on sale leaseback	1,702	1,702	21,851
Loss from operations	(698)	(29,304)	(9,967)
Other income (expense):			
Interest income	31	440	586
Interest expense	(2,508)	(58)	(270)
Decrease (increase) in liability for contingent value rights	(407)	9,142	—
Other, net	630	4,377	(221)
Total other income (expense), net	(2,254)	13,901	95
Loss from continuing operations before income tax benefit	(2,952)	(15,403)	(9,872)
Income tax benefit from continuing operations	13,125	2,617	1,535
Income (loss) from continuing operations	10,173	(12,786)	(8,337)
Discontinued operations:			
Gain on sale of AVINZA Product Line, net	—	2,212	5,434
Gain on sale of Oncology Product Line, net	3	201	955
Income from discontinued operations	3	2,413	6,389
Net income (loss)	$ 10,176	($10,373)	($1,948)
Basic and diluted per share amounts:			
Income (loss) from continuing operations	$ 0.52	($0.65)	($0.44)
Income from discontinued operations	—	0.12	0.34
Net income (loss)	$ 0.52	($0.53)	($0.10)
Weighted average number of common shares-basic	19,655,632	19,613,201	18,862,751
Weighted average number of common shares-diluted	19,713,320	19,613,201	18,862,751

See accompanying notes to these consolidated financial statements.

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LIGAND PHARMACEUTICALS INCORPORATED

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) AND COMPREHENSIVE LOSS

(in thousands, except share data)

	Common Stock		Additional paid-in capital	Accumulated other comprehensive income (loss)	Accumulated deficit	Treasury stock		Total stockholders' equity (deficit)	Comprehensive income (loss)
	Shares	Amount				Shares	Amount		
Balance at December 31, 2008	19,760,457	$ 20	$711,298	$ 81	$ (679,626)	(1,101,317)	$(42,134)	$ (10,365)	$ (98,042)
Issuance of common stock under employee stock compensation plans	84,376	—	228	—	—	—	—	228	—
Unrealized net gain on available-for-sale securities	—	—	—	432	—	—	—	432	432
Stock-based compensation	—	—	3,365	—	—	—	—	3,365	—
Shares redeemed in lieu of cash payment for milestone achieved	—	—	3,086	—	—	—	—	3,086	—
Issuance of common stock for acquisition of Neurogen	700,000	1	8,942	—	—	—	—	8,946	—
Net loss	—	—	—	—	(1,948)	—	—	(1,948)	(1,948)
Balance at December 31, 2009	20,544,833	21	726,919	513	(681,574)	(1,101,317)	(42,134)	3,744	(1,516)
Issuance of common stock under employee stock compensation plans	76,084	—	27	—	—	—	—	27	—
Unrealized net loss on available-for-sale securities	—	—	—	(482)	—	—	—	(482)	(482)
Repurchase of common stock	—	—	—	—	—	(10,682)	(91)	(91)	—
Stock-based compensation	—	—	2,325	—	—	—	—	2,325	—
Net loss	—	—	—	—	(10,373)	—	—	(10,373)	(10,373)
Balance at December 31, 2010	20,620,917	21	729,271	31	(691,947)	(1,111,999)	(42,225)	(4,850)	(10,855)
Issuance of common stock under employee stock compensation plans, net	61,589	—	54	—	—	—	—	54	—
Unrealized net loss on available-for-sale securities	—	—	—	(31)	—	—	—	(31)	(31)
Repurchase of common stock	—	—	—	—	—	(6,223)	(55)	(55)	—
Stock-based compensation	—	—	3,351	—	—	—	—	3,351	—
Net income	—	—	—	—	10,176	—	—	10,176	10,176
Balance at December 31, 2011	20,682,506	21	$732,676	$ —	$ (681,771)	(1,118,222)	$(42,280)	$ 8,646	$ 10,145

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,		
	2011	**2010**	**2009**
Operating activities			
Net income (loss)	$ 10,176	($10,373)	($1,948)
Less: gain from discontinued operations	3	2,413	6,389
Income (loss) from continuing operations	10,173	(12,786)	(8,337)
Adjustments to reconcile net income (loss) to net cash used in operating activities, including effects of business acquired:			
Write-off of acquired in-process research and development	2,282	2,754	442
Non-cash change in estimated fair value of contingent value rights	1,282	(9,142)	0
Accretion of deferred gain on sale leaseback	(1,702)	(1,702)	(21,851)
Depreciation and amortization	2,790	2,212	4,634
Non-cash lease costs	(51)	9,042	10,102
Non-cash development milestone revenue	—	—	(915)
Loss (gain) on asset write-offs	(456)	5,303	500
Realized loss (gain) on investment	6	(607)	(232)
Stock-based compensation	3,351	2,325	3,365
Deferred income taxes	(13,257)	—	—
Other	285	32	(18)
Changes in operating assets and liabilities, net of acquisition:			
Accounts receivable, net	(3,915)	(375)	(618)
Inventory	1,114	—	—
Other current assets	4,864	(3,931)	(448)
Other long term assets	605	(332)	10,346
Accounts payable and accrued liabilities	(11,568)	(13,447)	(10,989)
Other liabilities	865	(715)	(2,318)
Deferred revenue	2,160	(5,938)	(14,302)
Net cash used in operating activities of continuing operations	(1,172)	(27,307)	(30,639)
Net cash provided by (used in) operating activities of discontinued operations	—	240	(3,162)
Net cash used in operating activities	(1,172)	(27,067)	(33,801)
Investing activities			
Acquisition of Metabasis, net of cash acquired	—	(2,834)	—
Acquisition of CyDex, net of cash acquired	(32,024)	—	—
Cash acquired from acquisition of Neurogen	—	—	9,796
Payments to CVR holders	(2,875)	—	—
Acquisition of intellectual property	—	(1,247)	—
Purchases of property, equipment and building	(78)	(70)	(522)
Proceeds from sale of property, and equipment and building	530	589	108
Purchases of short-term investments	(10,000)	(35,584)	(32,806)
Proceeds from sale of short-term investments	19,346	54,040	47,761
Other, net	(31)	(354)	431
Net cash provide by (used in) investing activities of continuing operations	(25,132)	14,540	24,768
Net cash provided by investing activities of discontinued operations	—	—	—
Net cash provided by (used in) investing activities	(25,132)	14,540	24,768
Financing activities			
Principal payments on equipment financing obligations	—	(91)	(473)
Proceeds from issuance of debt	30,000	—	—
Repayment of debt	—	—	(3,443)
Proceeds from issuance of common stock, net	54	23	228
Share repurchases	(55)	(91)	—
Net cash provided by (used in) financing activities of continuing operations	29,999	(159)	(3,688)
Net cash provided by (used in) financing activities of discontinued operations	—	—	—
Net cash provided by (used in) financing activities	29,999	(159)	(3,688)
Net increase (decrease) in cash and cash equivalents	3,695	(12,686)	(12,721)
Cash and cash equivalents at beginning of year	3,346	16,032	28,753
Cash and cash equivalents at end of year	$ 7,041	$ 3,346	$ 16,032
Supplemental disclosure of cash flow information			
Cash paid during the year:			
Interest paid	$ 2,463	$ 58	$ 270
Taxes paid	39	28	14
Proceeds received from sale of building and disbursed to Neurogen shareholders	—	3,170	—
Supplemental schedule of non-cash investing and financing activities			
Issuance of common stock for acquisition	—	—	8,946

See accompanying notes to these consolidated financial statements.

LIGAND PHARMACEUTICALS INCORPORATED AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. The Company and Its Business

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 to 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. In comparison to its peers, the Company believes it has assembled one of the largest and most diversified asset portfolios in the industry with the potential to generate revenue in the future. 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, COPD, asthma, rheumatoid arthritis and osteoporosis. Ligand has established multiple alliances with the world’s leading pharmaceutical companies including GlaxoSmithKline, Merck, Pfizer, Baxter International, Bristol-Myers Squibb, Celgene, Onyx Pharmaceuticals, Lundbeck Inc. and The Medicines Company. 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. At December 31, 2011, the Company’s accumulated deficit was $681.8 million and the Company had negative working capital of $11.4 million. Management believes that cash flows from operations will improve due to consistent CAPTISOL® sales, an increase in royalty revenues driven primarily from continued increases in PROMACTA sales, as well as 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; and the capital requirements of any companies the Company acquires, including Pharmacopeia, Inc. (“Pharmacopeia”), Neurogen Corporation (“Neurogen”), Metabasis Therapeutics, Inc. (“Metabasis”) and CyDex Pharmaceuticals, Inc. (“CyDex”). 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.

2. Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the Company’s wholly owned subsidiaries, Seragen, Inc. (“Seragen”), Nexus Equity VI LLC (“Nexus”), Pharmacopeia, Neurogen, Metabasis and CyDex. 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, in-process research and development, goodwill, deferred revenue and income tax net operating losses during the reporting period. The Company's critical accounting policies are those that are both most important to the Company's consolidated 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.

Income (Loss) Per Share

Basic earnings 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 earnings 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. For the year ended December 31, 2010 and 2009, no potential common shares are included in the computation of any diluted per share amounts, including income (loss) per share from discontinued operations and net loss per share, as the Company reported a loss from continuing operations. 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 1.6 million, 1.0 million and 1.1 million for the years ended December 31, 2011, 2010, and 2009 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,		
	2011	2010	2009
Net income (loss) from continuing operations	$ 10,173	$ (12,786)	$ (8,337)
Discontinued operations	3	2,413	6,389
Net income (loss)	10,176	(10,373)	(1,948)
Shares used to compute basic income (loss) per share	19,655,632	19,613,201	18,862,751
Dilutive potential common shares:			
Restricted stock	57,688	—	—
Shares used to compute diluted income (loss) per share	19,713,320	19,613,201	18,862,751
Basic and diluted per share amounts:			
Income (loss) from continuing operations	$ 0.52	$ (0.65)	$ (0.44)
Discontinued operations	—	0.12	0.34
Net income (loss)	$ 0.52	$ (0.53)	$ (0.10)

Cash, Cash Equivalents and Short-term Investments

Cash and cash equivalents consist of cash and highly liquid securities with maturities at the date of acquisition of three months or less. Non-restricted equity and debt security investments 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 as a separate component of stockholders' equity. The Company determines the cost of investments based on the specific identification method.

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. The certificates of deposit have been classified by management as held-to-maturity and are accounted for at amortized cost.

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 2011 the Company did not experience any significant losses on its cash equivalents, short-term investments or restricted investments. As of December 31, 2011, cash deposits held at financial institutions in excess of FDIC insured amounts of $250,000 were approximately $13.1 million.

Accounts receivable from two customers were 67% of total accounts receivable at December 31, 2011. Accounts receivable from one customer was 100% of total accounts receivable at December 31, 2010.

The Company obtains CAPTISOL® from a sole-source 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 might take a considerable length of time.

Inventory

Inventory is stated at the lower of cost or market. 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.

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, 2011 and 2010.

Property and Equipment

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

	December 31, 2011	December 31, 2010
Lab and office equipment	$ 4,110	$ 5,676
Leasehold improvements	62	55
Computer equipment and software	1,054	3,996
	5,226	9,727
Less accumulated depreciation and amortization	(4,771)	(9,168)
	$ 455	$ 559

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 $0.5 million, $2.1 million and $3.1 million was recognized in 2011, 2010, and 2009, respectively,

In September 2010, the Company ceased use of its facility located in New Jersey. As a result, during the quarter ended September 30, 2010, the Company recorded lease exit costs of $9.7 million for costs related to the difference between the remaining lease obligations of the abandoned operating leases, which run through August 2016, and management's estimate of potential future sublease income, discounted to present value. In addition, the Company wrote-off property and equipment with a net book value of $5.4 million related to the facility closure.

Goodwill and Other Identifiable Intangible Assets

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

	December 31, 2011	December 31, 2010
Acquired in-process research and development	$ 13,036	$ 12,379
Complete technology	14,643	—
Trade name	2,537	—
Customer relationships	29,400	—
Goodwill	14,894	700
	74,510	13,079
Accumulated amortization	(2,179)	(128)
	$ 72,331	$ 12,951

The Company accounts for goodwill in accordance with GAAP 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 considers its market capitalization and the carrying value of its assets and liabilities, including goodwill, when performing its goodwill impairment test. 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 our 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. To date, there has been no impairment of goodwill for continuing operations.

Amortization of definite lived intangibles is computed using the straight-line method over the estimated useful life of the asset of 20 years. Amortization expense of $2.3 million, $0.1 million and $0 was recognized in 2011, 2010, and 2009, respectively. Estimated amortization expense for the years ending December 31, 2012 through 2016 is $2.3 million per year.

In January 2011, the Company completed its acquisition of CyDex Pharmaceuticals, Inc. As a result of the transaction, the Company recorded $46.6 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 $14.2 million of goodwill.

In May 2010, the Company purchased from the Genaera Liquidating Trust certain intellectual property and interests in future milestones and royalties for MEDI-528, an IL-9 antibody program under development by AstraZeneca's subsidiary, MedImmune. MEDI-528 is currently in a 320-patient Phase II study for moderate-to-severe asthma. The Company paid $2.8 million to the Genaera Liquidating Trust in connection with the purchase. As part of the transaction, the Company also entered into a separate agreement with a shareholder of Ligand, whereby the shareholder and Ligand agreed to share the purchase price and any proceeds from the deal equally. Accordingly, the Company was reimbursed for $1.4 million of the purchase price. The Company recorded the net purchase price of $1.4 million as acquired In-Process Research and Development ("IPR&D"). As discussed below, the asset was subsequently impaired upon receipt of notice from MedImmune that it was exercising its right to terminate the collaboration and license agreement.

In January 2010, the Company completed its acquisition of Metabasis Therapeutics, Inc. ("Metabasis"). As a result, the Company recorded $12.0 million of the purchase price of Metabasis as IPR&D.

In December 2009, the Company completed its acquisition of Neurogen Corporation ("Neurogen"). As a result, the Company recorded $1.8 million of the purchase price of Neurogen as IPR&D.

Acquired in-process research and development

Intangible assets related to in-process research and development costs, or 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.

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.

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 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 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 in October 2011 that it was exercising its right to terminate the collaboration and license agreement. Subsequent to the termination of the agreement, the Company will receive 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.

In November 2010, Roche notified the Company that it was exercising its right to terminate the collaboration and license agreement with the Company's subsidiary, Metabasis Therapeutics, Inc. As a result, the Company's management reviewed the carrying amount of the intangible asset related to this agreement. Based on an analysis of available information, management determined that the asset would not generate future cash flows. Therefore, the Company wrote-off the $2.8 million of acquired in-process research and development associated with the agreement during the year ended December 31, 2010.

As of December 31, 2011, management does not believe there have been any other events or circumstances indicating that the carrying amount of its remaining long-lived assets may not be recoverable.

Liability for Contingent Value Rights

In connection with the Company's acquisition of CyDex, the Company recorded a $19.2 million contingent liability, inclusive of the $4.3 million payment made in January 2012, for amounts potentially due to holders of the CyDex CVRs. The initial fair value of the liability was determined using a discounted cash flow analysis 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, 2011 was $16.5 million. As a result, the Company recorded a decrease in the liability for contingent value rights of $0.7 million for 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 contingent value rights, one contingent value right from each of four respective series of contingent value rights, for each Metabasis share. The contingent value rights 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 or the sale or partnering of any of the Metabasis drug development programs, among other triggering events. The acquisition-date fair value of the contingent value rights of $9.1 million was determined using quoted market prices of Metabasis common stock in active markets. The fair values of the contingent value rights 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 $1.1 million and $0 as of December 31, 2011 and 2010, respectively. As a result, the Company recorded an increase in the liability for contingent value rights of $1.1 million during the year ended December 31, 2011 and a decrease of $9.1 million during the year ended December 31, 2010.

In connection with the Company's acquisition of Neurogen in December 2009, the Company issued to Neurogen stockholders four contingent value rights; 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 contingent value rights as part of the purchase price. The acquisition-date fair value of the real estate contingent value right 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 contingent value rights. As a result and after final settlement of all related expenses, the real estate contingent value right was terminated in August 2010. The acquisition-date fair value of the Aplindore, VR1 and H3 contingent value rights of $0, $0.2 million and $0.5 million, respectively, were estimated using the "income method", which uses a discounted cash flow model and applies a probability weighting based on estimates of successful product development and commercialization to estimated future net cash flows resulting from projected revenues and related costs. The fair values of the contingent value rights 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). At December 31, 2011 and 2010, the aggregate fair values of the Aplindore, VR1 and H3 CVR's were $0.7 million and $0.7 million, respectively, and included in other long-term liabilities in the accompanying consolidated balance sheets as management is unable to estimate the timing of potential future payments.

In connection with the Company's acquisition of Pharmacopeia in December 2008, the Company issued to Pharmacopeia security holders a contingent value right that entitles each holder to receive a proportionate share of an aggregate of $15.0 million if the Company entered into a license, sale, development, marketing or option agreement with respect to any product candidate from Pharmacopeia's DARA program. The Company did not record a liability for contingent value rights at the time of the acquisition as the Company's management deemed, based on available information, that the likelihood of payment was not determinable beyond a reasonable doubt. The contingent value rights expired on December 31, 2011.

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 table below with Level 1 having the highest priority and Level 3 having the lowest.

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, 2011 (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:				
Short-term investments	$10,000	$ 10,000	$ —	$ —
Liabilities:				
Current potion of liability for contingent value rights —CyDex	$ 6,879	$ —	$ —	$ 6,879
Liability for contingent value rights—Metabasis	1,068	1,068	—	—
Liability for contingent value rights—Neurogen	700	—	—	700
Liability for contingent value rights—CyDex	9,665	—	—	9,665
Total liabilities	$18,312	$ 1,068	$ —	$ 17,244

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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, 2010 (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:				
Short-term investments	$ 19,351	$ 19,351	$ —	$ —
Liabilities:				
Liability for contingent value rights—Metabasis	—	—	—	—
Liability for contingent value rights—Neurogen	700	—	—	700
	$ 700	$ —	$ —	$ 700

The Company's short-term investments are fixed income available-for-sale securities and include U.S. Government Notes and Corporate Discount Commercial Paper. The fair value of the Company's short-term investments is determined using quoted market prices in active markets. The Metabasis CVR liability is marked-to-market at each reporting period based upon the quoted market prices of the underlying CVR. The CyDex and Neurogen CVR liability is marked-to-market at each reporting period based upon a discounted cash flow analysis.

Revenue Recognition

Royalties on sales of products commercialized by the Company's partners are recognized in the quarter reported by the respective partner.

Revenue from material sales is recognized upon transfer of title, which normally passes to the buyer 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.

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 the Company's 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.

Revenue from 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.

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The composition of collaborative research and development and other revenues is as follows (in thousands):

	Year Ended December 31,		
	2011	2010	2009
Collaborative research and development	$ 601	$ 7,734	$23,316
License fees	5,889	6,250	525
Development milestones and other	2,211	2,275	6,765
	$8,701	$16,259	$30,606

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 (collectively 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.

Warrant Liability

To qualify as permanent equity, an equity derivative, including warrants, must permit the Company to settle in unregistered shares. Under securities law, if the warrants were issued in connection with a public offering and have a cash settlement feature at the holder's option, the Company does not have the ability to settle in unregistered shares. Therefore, the warrants cannot be classified as permanent equity and are instead classified as a liability. The warrants that the Company issued as part of its equity financing in October 2006 meet this criterion, and their fair value has been recorded as a liability in the accompanying consolidated balance sheets. The warrants expire in April 2012. Other warrants the Company had previously issued qualify as permanent equity and do not require remeasurement.

The Company records its warrant liabilities at fair value using a Black-Scholes option-pricing model and remeasures at each reporting date until the warrants are exercised or have expired. Changes in the fair value of the warrants are reported in the statements of operations as income or expense. The fair value of the warrants is subject to significant fluctuation based on changes in the Company's stock price, expected volatility, expected life, the risk-free interest rate and dividend yield. The market price for the Company's common stock has been and may continue to be volatile. Consequently, future fluctuations in the price of the Company's common stock may cause significant increases or decreases in the fair value of the warrants.

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 be recognized as revenue upon receipt of future royalties from the respective partners. As of December 31, 2011 and December 31, 2010, the Company had deferred $1.3 and $2.5 million of revenue, respectively, which is included in long-term portion of deferred revenue.

Product Returns

In connection with the sale of the Company's 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 the 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.

Research and development costs are expensed as incurred. Research and development expenses from continuing operations were $10.3 million, $22.1 million and $39.9 million in 2011, 2010, and 2009, respectively, of which 99%, 61% and 47%, respectively, were sponsored by Ligand, and the remainder of which was funded pursuant to collaborative research and development arrangements.

Income Taxes

The Company recognizes liabilities or assets for the deferred tax consequences of temporary differences between the tax bases of assets or liabilities and their reported amounts in the financial statements. These temporary differences will result in taxable or deductible amounts in future years when the reported amounts of the assets or liabilities are recovered or settled. A valuation allowance is established when management determines that it is more likely than not that all or a portion of a deferred tax asset will not be realized. Management evaluates the realizability of its net deferred tax assets on a quarterly basis and valuation allowances are provided, as necessary. During this evaluation, management reviews its forecasts of income in conjunction with other positive and negative evidence surrounding the realizability of its deferred tax assets to determine if a valuation allowance is required. Adjustments to the valuation allowance will increase or decrease the Company's income tax provision or benefit. Management also applies the relevant guidance to determine the amount of income tax expense or benefit to be allocated among continuing operations, discontinued operations, and items charged or credited directly to stockholders' equity (deficit).

A tax position must meet a minimum probability threshold 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 recognizes interest and penalties related to uncertain tax positions in income tax expense.

Accounting for Stock-Based Compensation

The Company has employee compensation plans under which various types of stock-based instruments are granted. Share-based payments to employees, including grants of employee stock options, are recognized in the Consolidated Statements of Operations as compensation expense (based on their estimated fair values at grant date) generally over the vesting period of the awards using the straight-line method. Compensation expense for consultant awards is recognized over each separate tranche's vesting period.

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 accumulated unrealized gains or losses are reported as accumulated other comprehensive income (loss) as a separate component of stockholders' equity.

New Accounting Pronouncements

In October 2009, the FASB issued Accounting Standards Update ("ASU") No. 2009-13, *Multiple-Deliverable Revenue Arrangements*, or ASU 2009-13, which amends existing revenue recognition accounting pronouncements that are currently within the scope of ASC 605. This guidance eliminates the requirement to establish the fair value of undelivered products and services and instead provides for separate revenue recognition based upon management's estimate of the selling price for an undelivered item when there is no other means to determine the fair value of that undelivered item. ASU 2009-13 is effective for us prospectively for revenue arrangements entered into or materially modified beginning January 1, 2011. Our adoption of this amendment had no material impact on our consolidated financial statements.

In May 2011, the FASB issued ASU 2011-04, *Fair Value Measurement (Topic 820)—Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs*." This ASU represents the converged guidance of the FASB and the IASB (the Boards) on fair value measurement. The collective efforts of the Boards and their staffs, reflected in ASU No. 2011-04, have resulted in common requirements for measuring fair value and for disclosing information about fair value measurements, including a consistent meaning of the term "fair value." ASU No. 2011-04 amends ASC 820, *Fair Value Measurements and Disclosures* to provide guidance on how fair value measurement should be applied where existing U.S. GAAP already requires or permits fair value measurements. This ASU does not extend the use of fair value, but rather provides guidance on application. In addition, ASU No. 2011-04 requires expanded disclosures regarding fair value measurements. Our adoption of this standard had no impact on our consolidated financial position, results of operations or cash flows.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income (Topic 220)—Presentation of Comprehensive Income*. This ASU amends Topic 220, *Comprehensive Income*, to allow an entity the option to present the total of comprehensive income, the components of net income, and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. In both choices, an entity is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. ASU No. 2011-05 eliminates the option to present the components of other comprehensive income as part of the statement of changes in shareholders' investment. The amendments to the Codification in the ASU do not change the items that must be reported in other comprehensive income or when an item of other comprehensive income must be reclassified to net income. The provisions of ASU No. 2011-05 should be applied retrospectively and are effective for fiscal years, and interim periods within those years, beginning after December 15, 2011 which, for the Company, will be the beginning of fiscal year 2013. Early adoption is permitted. The Company is currently evaluating the impact of this new guidance, but does not expect the adoption of ASU No. 2011-05 to have a material impact on its consolidated financial statements.

In September 2011, the FASB issued ASU 2011-08, *Intangibles—Goodwill and other: testing for goodwill impairment*, which, among other things, amends *Accounting Standards Topic 350 Intangibles—Goodwill and Other*, to allow entities to use a qualitative approach to test goodwill for impairment. ASU 2011-08 permits an entity to first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If it is concluded that this is the case, it is necessary to perform the currently prescribed two-step goodwill impairment test. Otherwise, the two-step goodwill impairment test is not required. Our adoption of this standard had no impact on our consolidated financial position, results of operations or cash flows.

In December 2011, the FASB issued ASU 2011-12, *Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income* in ASU 2011-12. The amendments in ASU 2011-12 defer the changes in ASU 2011-05 that relate to the presentation of reclassification adjustments out of accumulated other comprehensive income. The amendments in this ASU are effective for public entities for fiscal years, and interim periods within those years, beginning after December 15, 2011. See above for the provisions of ASU 2011-05.

3. Segment Reporting

Under Accounting Standards Codification No. 280, “Segment Reporting”, or 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 this Codification and has identified two reportable segments: the development and commercialization of drugs using CAPTISOL technology by the recently acquired 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 to a lean corporate cost structure of Ligand Pharmaceuticals, Inc. 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 was as follows for the year ended December 31, 2011:

	Ligand	CyDex	Total
For the Year Ending December 31, 2011:			
Net revenues from external customers	$ 13,790	$16,247	$ 30,037
Operating profit (loss)	(5,733)	5,035	(698)
Depreciation and amortization expense	486	2,304	2,790
Income tax expense (benefit)	13,103	—	13,103
Interest expense	2,508	—	2,508
Write-off of acquired in process research and development	2,282	—	2,282
Assets	111,431	10,919	122,350

4. Acquisition of CyDex

On January 24, 2011, the Company acquired CyDex Pharmaceuticals, Inc. (“CyDex”), a specialty pharmaceutical company developing products and licensing its CAPTISOL technology. CAPTISOL is currently incorporated in five FDA-approved medications and marketed by three of CyDex’s licensees: Pfizer, Bristol-Myers Squibb and Baxter (formerly Prism Pharmaceuticals). In addition, CyDex is supporting drug development efforts with more than 40 companies worldwide.

Under the terms of the agreement, the Company paid $31.6 million, net of a working capital adjustment of $0.5 million, to the CyDex shareholders and issued a series of Contingent Value Rights (CVR). In 2011, $0.9 million was paid to the CyDex Shareholders upon completion of a licensing agreement with The Medicines Company 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. In January 2012, the Company paid $4.3 million and may be required to pay up to an additional $9.5 million upon achievement of certain milestones. In addition, the Company will pay CyDex shareholders, for each respective year from 2011 through 2016, 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 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.

The CyDex CVR Agreement requires the Company to, in the event of a Default, deliver to an escrow agent the future cash payments described above, and such amounts would then be delivered by the escrow agent to the CyDex shareholders if, as and when they would have by the CyDex CVR Agreement been required to be delivered to the CyDex shareholders by the Company. "Default" includes the following, subject to certain cure rights: (a) the Company fails to pay to the Shareholders' Account any amount as and when required under the CyDex CVR Agreement, (b) at any time the Company is obligated for more than $35.0 million of financial indebtedness (other than financial indebtedness which is expressly subordinated to all obligations of Ligand under the CyDex CVR Agreement pursuant to a written subordination agreement signed by and reasonably acceptable to the Shareholders' Representative), (c) at any time after March 15, 2011 the Company's cash, cash equivalents and short-term investments is less than $10.0 million, or (d) the Company commits any material breach of the CyDex CVR Agreement. Pursuant to the CVR Agreement, the shareholders' representative on behalf of the former CyDex shareholders has recently filed a notice of objection with the Company regarding the calculation of payments due to the CyDex former shareholders for the first and second quarters of 2011. In addition, the shareholders' representative has claimed that the Company exceeded the $35 million financial indebtedness limitation contained in the CVR Agreement. The Company disagrees with these claims and intends to work with the shareholders' representative to resolve the claims. If the Company and the shareholders' representative fail to agree, the claims may be resolved through arbitration.

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, of which was achieved.

At the closing of the acquisition, the Company recorded a $19.2 million contingent liability, inclusive of the $4.3 million payment in January 2012, for amounts potentially due to holders of the CyDex CVRs. The initial fair value of the liability was determined using a discounted cash flow analysis 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, 2011 was $16.5 million.

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

Purchase Consideration:	
Cash paid to CyDex shareholders	$31,572
Estimated fair value of contingent consideration	14,905
Cash payable to CyDex shareholders	4,300
Total purchase consideration	$50,777

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Allocation of Purchase Price:	
Cash	$ 85
Accounts receivable	1,202
Inventory	2,414
In-process research and development	3,200
Intangible assets with definite lives	46,580
Goodwill	14,194
Other assets	1,311
Liabilities assumed	(18,209)
	$ 50,777

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

Acquired Intangible Assets (in thousands)	
Complete technology	$14,643
Trademark and trade name	2,537
Customer relationships	29,400
	$46,580

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 acquired In-Process Research and Development (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 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%. Management does not believe that any events have occurred that would impair the IPR&D at December 31, 2011.

The valuation of the complete technology, or CyDex's 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%.

Had the merger with CyDex been completed as of the beginning of 2011, the Company's pro forma results for the years ended December 31, 2011 and 2010 would have been as follows (unaudited):

(in thousands, except per share data)	2011	2010
Revenue	$30,226	$ 23,727
Operating loss	(1,591)	(32,403)
Net income (loss)	9,148	(15,480)
Basic and diluted earnings per share:		
Income (loss) from continuing operations	$ 0.47	$ (0.91)
Discontinued operations	$ 0.00	$ 0.12
Net income (loss)	$ 0.47	$ (0.79)
Basic and diluted weighted average shares	19,656	19,613

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The primary adjustments relate to interest expense on long-term debt, the loss of interest income due to the timing of transaction related payments and amortization of intangible assets. The above pro forma information was determined based on historical results adjusted for the purchase price allocation and estimated related changes in income associated with the merger of CyDex.

5. Acquisition of Metabasis

On January 27, 2010, the Company completed the acquisition of Metabasis. As a result, the Company gained a fully funded partnership with Roche, additional pipeline assets and drug discovery technologies and resources. The Company paid $1.8 million in cash, or approximately $0.046 per Metabasis share, to Metabasis' stockholders. In addition, Metabasis stockholders received four tradable CVRs, one CVR from each of four respective series of CVRs, 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 or the sale or partnering of any of the Metabasis drug development programs, among other triggering events. The Company has also committed to spend at least $8.0 million in new research and development funding on the Metabasis programs within 42 months following the closing of the transaction.

The components of the purchase price allocation for Metabasis are as follows:

Purchase Consideration: **(in thousands)**	
Cash paid to Metabasis shareholders	$ 1,758
Fair value of contingent value rights	9,142
Total purchase consideration	$10,900

Allocation of Purchase Price: **(in thousands)**	
Cash acquired	$ 376
Other current assets	382
Acquired in-process research and development	11,975
Liabilities assumed	(1,833)
	$10,900

There were no acquired identified intangible assets with definite lives from the acquisition with Metabasis. The Company expensed approximately $0.3 million of transaction costs related to the acquisition.

The Company has allocated $12.0 million of the purchase price of Metabasis to IPR&D. This amount represents the estimated fair value of various acquired in-process projects that have not yet reached technological feasibility and do not have future alternative use as of the date of the merger. The amount is related to internal and partnered product candidates targeting a variety of indications and currently in the preclinical stage of development. Of the total amount, $2.8 million relates to a fully funded partnership with Roche for hepatitis C, $3.0 million relates to an internal program for glucagon antagonists to treat type 2 diabetes, $2.5 million relates to an internal liver-targeted thyroid receptor B agonist (TR Beta) program, and $3.7 million relates to various early stage programs. The estimated fair values of acquired IPR&D was based on the relative value of the grossed up trading price of each CVR that it is associated with the former Metabasis shareholders retaining 50% of the Glucagon, TR Beta and General CVR's and 66% of the Roche CVR. The total value of $12.0 million was allocated based on the following percentages; Roche CVR—23%, Glucagon CVR—25%, TR Beta CVR—21% and General CVR—31%.

In addition, at the closing of the acquisition, the Company recorded a $9.1 million contingent liability for amounts potentially due to holders of CVRs. The initial fair value of the liability was determined using quoted

market prices of Metabasis common stock in active markets. The liability will continue to be marked-to-market at each reporting period based upon the quoted market prices of the underlying CVR, 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 based upon quoted market prices 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 was $1.1 million and $0 for the period ended December 31, 2011 and 2010, respectively. As a result, the Company recorded an increase in the liability for contingent value rights of $1.1 million for the year ended December 31, 2011 and a decrease in liability for contingent value rights of $9.1 million during the year ended December 31, 2010.

Had the merger with Metabasis been completed as of the beginning of 2009, the Company's pro forma results for 2010 and 2009 would have been as follows (unaudited):

(in thousands, except per share data)	2010	2009
Revenue	$ 23,538	$ 55,424
Operating loss	(30,308)	(15,821)
Net loss	(13,535)	(7,966)
Basic and diluted earnings per share:		
Continuing operations	$ (0.70)	$ (0.76)
Discontinued operations	$ 0.01	$ 0.34
Net income (loss)	$ (0.69)	$ (0.42)
Basic and diluted weighted average shares	19,613	18,863

The primary adjustments relate to the loss of interest income due to the timing of transaction related payments. The above pro forma information was determined based on historical results adjusted for the purchase price allocation and changes in income associated with the merger of Metabasis.

6. Discontinued Operations

Oncology Product Line

On September 7, 2006, the Company, Eisai Inc., a Delaware corporation and Eisai Co., Ltd., a Japanese company (together with Eisai Inc., "Eisai"), entered into a purchase agreement (the "Oncology Purchase Agreement") pursuant to which Eisai agreed to acquire all of the Company's worldwide rights in and to the Company's oncology products, including, among other things, all related inventory, equipment, records and intellectual property, and assume certain liabilities as set forth in the Oncology Purchase Agreement. For the years ended December 31, 2011, 2010 and 2009, the Company recognized pre-tax gains of $3,000, $0.2 million and $1.0 million, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date.

The Company agreed to indemnify Eisai, after the closing, for damages suffered by Eisai arising from any breach of any of the Company's representations, warranties, covenants or obligations in the Oncology Purchase Agreement. The Company's obligation to indemnify Eisai extends beyond the closing up to, in some cases, 18 months or 36 months and, in other cases, until the expiration of the applicable statute of limitations. In a few instances, the Company's obligation to indemnify Eisai survives in perpetuity. The Company's liability for any indemnification claim brought by Eisai is generally limited to $30.0 million. However, the Company's obligation to provide indemnification on certain matters is not subject to these indemnification limits. For example, the Company agreed to retain, and provide indemnification without limitation to Eisai for, all liabilities related to certain claims regarding promotional materials for the ONTAK and Targretin drug products. Management cannot estimate the liabilities that may arise as a result of these matters and, therefore, no accrual has been recorded at December 31, 2011 and 2010.

Upon the Oncology sale, the Company accrued for rebates, chargebacks, and other discounts related to Oncology products in the distribution channel which had not sold-through at the time of the Oncology sale and

for which the Company retained the liability subsequent to the sale. These products expired at various dates through July 31, 2008. The Company's accruals for Oncology rebates, chargebacks, and other discounts total zero as of December 31, 2011 and 2010, respectively, and are included in accrued liabilities in the accompanying consolidated balance sheets.

Additionally, and pursuant to the terms of the Oncology 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 the transaction. Accordingly, as part of the accounting for the gain on the sale of the Oncology Product Line, the Company recorded a reserve for Oncology product returns. Oncology products sold by the Company may be returned through a specified period subsequent to the product expiration date, but no later than July 31, 2009. The Company's reserve for Oncology returns is zero as of December 31, 2011 and 2010.

AVINZA Product Line

In February 2007, Ligand and King Pharmaceuticals, Inc. (King), entered into a purchase agreement (the "AVINZA Purchase Agreement"), pursuant to which King agreed to acquire 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 (collectively, the "Transaction").

Pfizer, as successor to King also assumed Ligand's co-promote termination obligation to make payments to Organon based on net sales of AVINZA ($21.5 million and $30.9 million as of December 31, 2011 and 2010, respectively). As Organon has not consented to the legal assignment of the co-promote termination obligation from Ligand to Pfizer, as successor to King, Ligand remains liable to Organon in the event of default of this obligation. For the years ended December 31, 2011, 2010 and 2009, the Company recognized pre-tax gains of $0, $2.2 million and $5.4 million, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date.

In addition to the assumption of existing royalty obligations, Pfizer, as successor to King is required to pay Ligand a royalty on AVINZA net sales. If calendar year net sales are less than $200 million, the royalty payment will be 5% of all net sales. If calendar year net sales are greater than $200 million, the royalty payment will be 10% of all net sales less than $250 million, plus 15% of net sales greater than $250 million. Royalty revenues were $4.2 million, $5.4 million, and $7.7 million in 2011, 2010 and 2009, respectively.

Upon the AVINZA sale, the Company accrued for rebates, chargebacks, and other discounts related to AVINZA products in the distribution channel which had not sold-through at the time of the AVINZA sale and for which the Company retained the liability subsequent to the sale. These products expired at various dates through June 30, 2009. The Company's accruals for AVINZA rebates, chargebacks, and other discounts total zero as of December 31, 2011 and 2010, respectively, and are included in accrued liabilities in the accompanying consolidated balance sheet.

Additionally, and 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 the transaction. Accordingly, as part of the accounting for the gain on the sale of AVINZA, the Company recorded a reserve for AVINZA product returns. AVINZA products sold by the Company may be returned through a specified period subsequent to the product expiration date, but no later than December 31, 2009. The Company's reserve for AVINZA returns is zero as of December 31, 2011 and 2010, respectively, and is included in accrued liabilities in the accompanying consolidated balance sheet. Additionally, in February 2011, the Company agreed to terms with a third party wholesaler for previously recorded liabilities associated with AVINZA returns resulting in a reduction of accounts payable and corresponding gain on sale of AVINZA product line before income taxes of $2.1 million as of and for the year ended December 31, 2010.

7. Investments

As of December 31, 2011 and 2010, all of the Company's investments have a contractual maturity of less than one year. The following table summarizes the various investment categories (in thousands):

	Cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
December 31, 2011				
Certificates of deposit	$10,000	$ —	$ —	$10,000
Certificates of deposit—restricted	1,341	—	—	1,341
Total debt securities	$11,341	$ —	$ —	$11,341
December 31, 2010				
U.S. government securities	$ 2,031	$ 9	($3)	$ 2,037
Certificates of deposit	5,062	98	—	5,160
Corporate obligations	12,164	104	(114)	12,154
	19,257	$ 211	($117)	19,351
Certificates of deposit—restricted	1,341	—	—	1,341
Total debt securities	$20,598	$ 211	$ (117)	$20,692

In July 2007, the Company purchased $5.0 million of commercial paper issued by Golden Key Ltd. The investment was highly-rated and within the Company's investment policy at the time of purchase, but during the third quarter of 2007, large credit rating agencies downgraded the quality of this security. In addition, as a result of not meeting certain liquidity covenants, the assets of Golden Key Ltd. were assigned to a trustee who established a committee of the largest senior credit holders to determine the next steps. Subsequently, Golden Key Ltd. defaulted on its obligation to settle the security on the stated maturity date of October 10, 2007. During 2010, the assets of Golden Key Ltd. were sold through an auction process and, as a result, the Company received a final cash distribution of approximately $2.9 million resulting in a gain of $1.4 million, which is included in other income, net.

There were no other material realized gains or losses on sales of available-for-sale securities for the years ended December 31, 2011, 2010, and 2009.

8. Other Balance Sheet Details

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

	December 31, 2011	December 31, 2010
Prepaid expenses	$ 905	$578
Advanced manufacturing payments	312	—
Other receivables	127	142
	$1,344	$720

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Accrued liabilities consist of the following (in thousands):

	December 31, 2011	December 31, 2010
Compensation	$1,806	$2,201
Legal	355	330
Lease exit	2,026	2,076
Other	4,075	4,252
	$8,262	$8,859

Other Long-Term Liabilities

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

	December 31, 2011	December 31, 2010
Deferred rent	$ —	$ 601
Deposits	388	388
	$ 388	$ 989

9. AVINZA Co-Promotion

In February 2003, the Company and Organon Pharmaceuticals USA Inc. (Organon) announced that they had entered into an agreement for the co-promotion of AVINZA. Subsequently in January 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 6.0% through patent expiration, currently anticipated to be November of 2017.

In February 2007, the Company and King executed an agreement pursuant to which King acquired all of the Company's rights in and to AVINZA. King also assumed the Company's co-promote termination obligation to make royalty payments to Organon based on net sales of AVINZA. For the fourth quarter of 2006 and through the closing of the AVINZA sale transaction, amounts owed by the Company to Organon on net reported sales of AVINZA did not result in current period expense, but instead were charged against the co-promote termination liability. The liability was adjusted at each reporting period to fair value and was recognized, utilizing the interest method, as additional co-promote termination charges for that period at a rate of 15%, the discount rate used to initially value this component of the termination liability.

In connection with King's assumption of this obligation, Organon did not consent to the legal assignment of the co-promote termination obligation to King. Accordingly, the Company remains liable to Organon in the event of King's default of the obligation. Therefore, the Company recorded an asset as of February 26, 2007 to recognize King's assumption of the obligation, while continuing to carry the co-promote termination liability in the Company's consolidated financial statements to recognize its legal obligation as primary obligor to Organon. This asset represents a non-interest bearing receivable for future payments to be made by King 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 King defaults on the assumed obligation to pay Organon).

On an annual 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.

A summary of the co-promote termination liability as of December 31, 2011 and 2010 is as follows (in thousands):

Net present value of payments based on estimated future net AVINZA product sales as of December 31, 2010	$40,775
Assumed payments made by King or assignee	(5,386)
Fair value adjustments due to passage of time	(4,504)
Total co-promote termination liability as of December 31, 2010	30,885
Assumed payments made by King or assignee	(4,155)
Fair value adjustments due to passage of time	(5,278)
Total co-promote termination liability as of December 31, 2011	21,452
Less: current portion of co-promote termination liability as of December 31, 2011	6,197
Long-term portion of co-promote termination liability as of December 31, 2011	$15,255

10. Commitments and Contingencies

Property Leases

In August 2009, the Company entered into a lease termination agreement for its 82,500 square foot office and laboratory facility in San Diego, California, which had a lease term through November 2021. Under the terms of the termination agreement, the Company paid a termination fee of $14.3 million as follows: $4.5 million was paid upon signing, $4.5 million was paid in July 2010 and $5.3 million was paid in April 2011. In addition, the Company entered into a lease for a period of 27 months commencing October 2009, for premises consisting of approximately 30,000 square feet of office and lab space located in San Diego to serve as its corporate headquarters. Under the terms of the lease, the Company pays a basic annual rent of $1.2 million (subject to an annual fixed percentage increase, as set forth in the agreement), plus other normal and necessary expenses associated with the lease. In October 2011, the Company entered into an extension of the lease through June 30, 2012, for a portion of the premises. Under the terms of the extension, beginning on January 1, 2012, the Company will pay monthly rent of $26,448, plus other normal and necessary expenses associated with the lease.

On September 5, 2011, the Company entered into a new lease for a period of 84 months commencing July 1, 2012, for premises consisting of approximately 16,500 square feet of office and laboratory space located in San Diego to serve as its new corporate headquarters. Pursuant to the terms of the lease, annual base rent will be approximately $0.5 million, subject to a 3% annual increase.

The Company leases approximately 1,500 square feet of laboratory space located at the Bioscience and Technology Business Center in Lawrence, Kansas leased through December 31, 2014. Pursuant to the terms of the lease, annual base rent will be approximately $0.1 million.

The Company also leases an office and research facility in San Diego, California under an operating lease arrangement through July 2015. The Company fully vacated this facility in February 2008. The lease agreement provides for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases ranging from 3% to 7%. Commencing January 2008, the Company sublet this facility through July 2015. The sublease agreement provides for a 3% increase in annual rents. As of December 31, 2011 and 2010, the lease exit obligation related to this lease was $2.8 million and $3.6 million, respectively.

The Company leases approximately 99,000 square feet in three facilities in Cranbury, New Jersey under leases that expire in 2016. The leases for the New Jersey facilities provide generally for scheduled rent increases, options to extend the leases with certain changes to the terms of the lease agreement, and refurbishment allowances. Commencing September 2009, the Company sublet 5,100 square feet of space through August 2014. As of December 31, 2011, the Company expects to receive $0.2 million in aggregate future lease payments over the duration of the sublease agreement.

In September 2010, the Company ceased use of its facility located in New Jersey. As a result, during the quarter ended September 30, 2010, the Company recorded lease exit costs of $9.7 million for costs related to the difference between the remaining lease obligations of the abandoned operating leases, which run through August 2016, and management's estimate of potential future sublease income, discounted to present value. In addition, the Company wrote-off property and equipment with a net book value of approximately $5.4 million related to the facility closure.

As of December 31, 2011, annual minimum payments due under the Company's office lease obligations and annual minimum rentals expected to be received by the Company under subleases are as follows (in thousands):

Year ending December 31,	Operating leases	Sublease Income	Net Payments
2012	$ 5,603	$ 971	$ 4,632
2013	5,507	1,173	4,334
2014	5,588	1,170	4,418
2015	4,640	655	3,985
2016	2,421	117	2,304
Thereafter	1,276	—	1,276
	$25,035	$4,086	$20,949

Total rent expense under all office leases for 2011, 2010 and 2009 was $1.2 million, $2.8 million and $5.1 million, respectively. The Company recognizes rent expense on a straight-line basis. Deferred rent at December 31, 2011 and 2010 was $0 and $0.6 million, respectively, and is included in other long-term liabilities.

Product Liability

The Company's business exposes it to potential product liability risks. The Company's products also may need to be recalled to address regulatory issues. A successful product liability claim or series of claims brought against the Company could result in payment of significant amounts of money and divert management's attention from running the business. Some of the compounds the Company is investigating may be harmful to humans. For example, retinoids as a class are known to contain compounds which can cause birth defects. The Company may not be able to maintain insurance on acceptable terms, or the insurance may not provide adequate protection in the case of a product liability claim. To the extent that product liability insurance, if available, does not cover potential claims, the Company would be required to self-insure the risks associated with such claims. No claims existed at December 31, 2011 and 2010. No reserve for any potential losses under product liability claims has been recorded at December 31, 2011 and 2010.

Litigation

In February 2009, the Company reached a settlement with The Rockefeller University whereby the parties resolved all disputes that have arisen between them. As part of the settlement, the Company agreed to pay Rockefeller, $5.0 million immediately upon settlement, $1.0 million on or before February 10, 2010, $1.0 million on or before February 10, 2011, and 50% of any milestone payment received by the Company and 5.88% to 7.0% of certain royalties received by the Company, in each case pursuant to an agreement with SmithKline Beecham Corporation (now known as GlaxoSmithKline) entered into on December 29, 1994. The Company also agreed to pay Rockefeller 1.5% of world-wide net sales of LGD-4665 as certain payments are received by the Company pursuant to its agreement with SmithKline Beecham Corporation entered into on December 17, 2008. As of December 31, 2011 and 2010, the Company has recorded a liability of $0 and $1.0 million, respectively, related to the settlement, which is included in current portion of accrued litigation settlement costs in the accompanying balance sheets.

In addition, from time to time the Company is subject to various lawsuits and claims with respect to matters arising out of the normal course of its business. If, based on the Company's assessment, it is probable that a liability has been incurred and can be reasonably estimated, then such loss is accrued and charged to operations. Management believes all costs that can be reasonably estimated will not exceed the related existing accruals.

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

In April 1996, the Company and Pfizer entered into a settlement agreement with respect to a lawsuit filed in December 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 the exchange ratio of $74.25 per share. 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. In March 2009, the Company earned a milestone from Pfizer, Inc. (Pfizer). In April 2009, pursuant to the Company's 1991 research agreement and 1996 settlement agreement with Pfizer, Pfizer elected to pay the milestone by returning 53,889 shares of stock it owns in the Company, which at the date the milestone was earned had a market value of $0.9 million. Ligand retired the tendered shares in May 2009. The difference between the fair value of the shares tendered and the carrying value of such shares based on the contractual exchange ratio, approximately $3.1 million, was credited to additional paid-in capital. The Company is entitled to royalties on future sales from Pfizer, which pursuant to the 1996 settlement agreement, Pfizer may elect to pay by returning shares of stock it owns in Ligand. At December 31, 2011 and 2010, the remaining shares of the Company's common stock that could be redeemed totaled approximately 112,371 and are reflected at the exchange ratio price of $74.25.

12. Stockholders' Equity

Stock Plans

On May 29, 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 1,266,666 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. As of December 31, 2011, there were 0.7 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.

Stock-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. The Company recognized compensation expense of $3.4 million, $2.3 million and $3.4 million for 2011, 2010 and 2000, respectively, associated with option awards,

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restricted stock and an equitable adjustment of employee stock options. The compensation expense related to share-based compensation arrangements is recorded as components of research and development expenses ($1.0 million, $1.2 million and $2.0 million) and general and administrative expenses ($2.4 million, $1.1 million and $1.4 million) for the years ended December 31, 2011, 2010 and 2009, respectively. There was no deferred tax benefit recognized in connection with these costs.

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,		
	2011	2010	2009
Risk-free interest rate	2.5%	2.7%	2.1%
Dividend yield	—	—	—
Expected volatility	69%	72%	74%
Expected term	6 years	6 years	6 years

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 selecting this assumption, the Company used the historical volatility of the Company's stock price over a period equal to the expected term.

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, 2008	505,013	39.3	6.63	81
Granted	275,308	15.84		
Exercised	(3,541)	12.18		
Forfeited	(52,581)	24		
Cancelled	(55,752)	50.46		
Balance at December 31, 2009	668,447	30.1	6.88	31
Granted	248,202	9.87		
Forfeited	(130,183)	14.31		
Cancelled	(145,205)	48.26		
Balance at December 31, 2010	641,261	21.36	7	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	25.77	7.96	1,489
Exercisable at December 31, 2011	487,012	20.23	6.78	339
Options vested and expected to vest as of December 31, 2011	1,086,693	14.62	7.97	1,489

The weighted-average grant-date fair value of all stock options granted during 2011 was $6.34 per share. The total intrinsic value of all options exercised during 2011, 2010 and 2009 was approximately $10,000, $0 and $2,000, respectively. As of December 31, 2011, there was $3.4 million of total unrecognized compensation cost related to nonvested stock options. That cost is expected to be recognized over a weighted average period of 1.97 years.

Cash received from options exercised in 2011, 2010 and 2009 was $58,000, $0 and $43,000, 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, 2011:

Range of exercise prices	Options outstanding	Weighted average remaining life in years	Weighted average exercise price	Options exercisable	Weighted average exercise price
$0.01 – $ 9.97	357,469	8.66	$ 9.79	104,943	$ 9.66
9.98 – 10.05	330,729	8.98	10.05	56,147	10.05
10.06 – 16.14	245,114	7.75	13.95	117,667	15.84
16.15 – 87.36	211,362	5.48	30.10	206,589	30.31
87.37 – 87.96	1,666	2.44	87.96	1,666	87.96
0.01 – 87.96	1,146,340	7.97	14.62	487,012	20.23

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, 2008	99,778	$ 30.84
Granted	59,743	15.78
Vested	(49,707)	36.84
Forfeited	(14,099)	21.06
Nonvested at December 31, 2009	95,715	17.93
Granted	60,349	9.6
Vested	(65,375)	16.7
Forfeited	(28,543)	12.56
Nonvested at December 31, 2010	62,146	13.6
Granted	119,826	10.07
Vested	(59,936)	12.47
Forfeited	(6,530)	11.71
Nonvested at December 31, 2011	115,506	10.63

Restricted stock awards generally vest over three years. As of December 31, 2011, unrecognized compensation cost related to non-vested stock awards amounted to $0.7 million. That cost is expected to be recognized over a weighted average period of 1.6 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 7,611, 14,888 and 22,443 shares of common stock issued under the Amended ESPP in 2011, 2010 and 2009, respectively, resulting in an expense of $13,000, $0.1 million and $0.1 million, respectively. For shares purchased under the Company’s Amended ESPP, a weighted-average expected volatility of 18%, 34% and 27% was used for 2011, 2010 and 2009, respectively. The expected term for shares issued under the ESPP is six months. As of December 31, 2011, 121,083 shares of common stock had been issued under the Amended ESPP to employees and 97,291 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, 2011 and 2010, 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 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.

Warrants

As of December 31, 2011, warrants to purchase 144,606 shares of the Company’s common stock were outstanding with an exercise price of $51.54 per share and an expiration date of April 2012. The warrants were assumed in the acquisition of Pharmacopeia, Inc.

As of December 31, 2011, 163,568 warrants with an exercise price of $179.40 per warrant and an expiration date of April 2013 were outstanding to purchase an aggregate of 129,360 shares of the Company’s common

stock. If exercised, these warrants are also entitled to receive $0.1 million in cash and 981,411 of each of the Company's four contingent value rights issued to Neurogen shareholders in December 2009. The series of warrants was assumed in the acquisition of Neurogen Corporation.

Share Repurchases

In March 2007, the Board of Directors authorized up to $100.0 million in share repurchases over the subsequent 12 months. Through February 2008, the Company repurchased 1.1 million shares of its common stock totaling $41.2 million.

On June 15, 2010, the Company announced that its Board of Directors has authorized the Company to repurchase up to $10.0 million of its common stock from time to time in privately negotiated and open market transactions for a period of up to two years, 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, 2011, the Company repurchased 16,905 shares of its common stock totaling $0.1 million.

Share Reserves

As of December 31, 2011, the Company had 0.7 million shares reserved for future issuance related to stock options, stock awards, stock purchase plan and warrants.

Reverse Stock Split

On November 19, 2010, following approval from the Company's stockholders at a special meeting of stockholders on September 9, 2010, the Company announced a 1-for-6 reverse stock split of its common stock. Accordingly, all share, warrant, option and per share information for all periods presented has been restated to account for the effect of the reverse stock split.

13. Income Taxes

At December 31, 2011, we had federal net operating loss carryforwards set to expire through 2031 of $456.0 million and $165.9 million of state net operating loss carryforwards. We also had $16.4 million of federal research and development credit carryforwards, $1.2 million of which expired at the beginning of 2011, with the remainder expiring through 2027, leaving $15.2 million remaining going into 2012. We have $10.3 million of California and New Jersey research and development credit carryforwards that have no expiration date.

Pursuant to Internal Revenue Code Section 382, use of net operating loss and credit carryforwards may be limited if the Company experiences a cumulative change in ownership of greater than 50% in a moving three-year period. Ownership changes could impact the Company's ability to utilize net operating loss and credit carryforwards remaining at an ownership change date. The Company has not updated its Section 382 study since 2007. The utilization of the net operating losses may be subject to limitation under Internal Revenue Codes Section 382.

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The components of the income tax benefit for continuing operations are as follows (in thousands):

	Year Ended December 31,		
	2011	2010	2009
Current Benefit:			
Federal	$ 520	($27,685)	$23,533
State	139	—	—
Foreign	—	—	—
	659	(27,685)	(23,533)
Deferred Benefit:			
Federal	(10,679)	25,068	(25,068)
State	(3,105)	—	—
Foreign	—	—	—
	($13,125)	($2,617)	$ (1,535)

Significant components of the Company's deferred tax assets and liabilities as of December 31, 2011 and 2010 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, 2011, 2010, and 2009. The change in valuation allowance was a decrease of $15.4 million for 2011 and an increase of $30.6 million and $0.8 million for 2010 and 2009, respectively.

	December 31,	
	2011	2010
	(in thousands)	
Deferred assets:		
Net operating loss carryforwards	$ 164,345	$ 157,395
Research and AMT credit carryforwards	22,163	23,182
Fixed assets and intangibles	21,674	17,824
Accrued expenses	1,467	6,697
Present value of AVINZA royalties	13,259	14,586
Organon termination asset	(11,012)	(11,937)
Organon termination liability	11,012	11,937
Organon royalty obligation	582	570
Deferred rent	3,770	—
Deferred sale leaseback	—	658
Lease termination costs	369	4,244
Capital loss carryforwards	501	751
Other	2,561	2,681
	230,691	228,588
Valuation allowance for deferred tax assets	(213,161)	(225,748)
Net deferred tax assets	$ 17,530	$ 2,840
Deferred tax liabilities:		
Identified intangibles	$ (17,530)	$ —
Identified indefinite lived intangibles	(2,285)	(372)
Total	$ (2,285)	$ 2,468

For 2011 and 2010, stock option deductions did not impact the valuation allowance through paid-in capital. Other changes to the valuation allowance allocated directly to other comprehensive income (loss) are related to unrealized gains of $0 million, $0.1 million and $0.01 million for 2011, 2010, and 2009, 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,		
	2011	2010	2009
Amounts computed at statutory federal rate	$998	$5,236	$3,387
State taxes net of federal benefit	(2)	(2)	234
Meals & entertainment	(9)	(6)	(10)
Acquisition related transaction costs	(37)	—	—
In process R&D	—	(451)	(136)
Therapeutic grant	—	665	—
Inputed interest	(255)	(321)	—
Roche collaboration	—	(1,437)	—
Contingent value rights	(481)	3,108	—
Stock-based compensation	(597)	(510)	(1,144)
Expired NOLs	(678)	(678)	(678)
Expired research and development credits	(1,200)	(543)	(887)
Change in uncertain tax positions	—	28,108	(24,116)
Carry back claims	—	—	25,651
Change in valuation allowance	15,427	(30,557)	(775)
Other	(41)	5	9
	$13,125	$2,617	$1,535

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, 2011 and 2010 is as follows (in thousands):

Balance at December 31, 2009	$ 34,026
Reductions for tax positions related to prior years	(25,205)
Balance at December 31, 2010	$ 8,821
Additions based on tax positions related to the current year	—
Reductions for tax positions of prior years	(211)
Balance at December 31, 2011	$ 8,610

Included in the balance of unrecognized tax benefits at December 31, 2010 is $8.6 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, 2011, there was no accrued interest related to uncertain tax positions.

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, 2011 and 2010 (in thousands).

	Quarter ended			
	31-Mar	30-Jun	30-Sep	31-Dec
2011				
Total revenues	$ 3,896	$ 7,463	$ 5,741	$12,937
Total operating costs and expenses	5,805	8,699	9,416	8,517
Income tax benefit (expense)	13,585	(141)	(22)	(297)
Income (loss) from continuing operations	10,028	(914)	(3,756)	4,815
Discontinued operations	4	—	—	—
Net income (loss)	$ 10,032	($914)	(3,756)	4,815
Basic and diluted per share amounts:				
Income (loss) from continuing operations	0.51	(0.05)	(0.19)	0.24
Discontinued operations	—	—	—	—
Net loss	$ 0.51	($0.05)	($0.19)	$ 0.24
Weighted average shares—basic	19,623	19,650	19,673	19,675
Weighted average shares—diluted	19,623	19,650	19,673	19,738
2010				
Total revenues	$ 5,958	$ 5,838	$ 7,802	$ 3,940
Total operating costs and expenses	10,410	9,892	23,903	10,328
Income tax benefit (expense)	(274)	(625)	(419)	3,936
Income (loss) from continuing operations	(2,989)	(290)	(11,855)	2,348
Discontinued operations	239	7	12	2,155
Net income (loss)	($2,750)	($283)	($11,843)	$ 4,503
Basic and diluted per share amounts:				
Loss from continuing operations	(0.15)	(0.01)	(0.60)	0.12
Discontinued operations	0.01	—	—	0.11
Net loss	($0.14)	($0.01)	($0.60)	$ 0.23
Weighted average shares—basic	19,576	19,609	19,630	19,631
Weighted average shares—diluted	19,576	19,609	19,630	19,636

15. Sale Leaseback

In October 2006, the Company entered into an agreement for the sale of its 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, the Company agreed to lease back the building for a period of 15 years.

The Company 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 August 2009, the Company entered into a lease termination agreement for this building. As a result, the Company 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 through the term of its building lease, which expired in December 2011. The amount of the deferred gain recognized for the years ended December 31, 2011, 2010 and 2009 was $1.7 million, $1.7 million and $21.9 million, respectively.

16. Debt obligations

In January 2011, the Company entered into a $20 million Loan and Security Agreement (the "Oxford Loan") with Oxford Finance Corporation ("Oxford"). Under the terms of the Oxford Loan agreement, the Company will make interest only payments for one year at a fixed rate of 8.64%, with an option to extend the interest only payments for an additional year. Subsequent to the interest only payments, the note will amortize with principal and interest payments due through the remaining term of the loan. The loan term, including interest only payments, is 42 months.

If the Company prepays the Oxford Loan after January 24, 2012, the Company must pay Oxford an additional amount equal to 1.0% of the principal amount of the term loan prepaid.

Upon final repayment of the Oxford Loan on the maturity date, by prepayment, or upon acceleration of the Oxford Loan, the Company also must make an additional final payment of $1.2 million, which is being accreted over the term of the loan. To secure the Company's repayment obligations under the Oxford Loan, Oxford obtained a first priority security interest in all of the Company's assets, excluding intellectual property.

On January 23, 2012, the Company and Oxford Finance LLC amended the Loan and Security Agreement (the "Amended Loan and Security Agreement"). The Amended Loan and Security Agreement increased the secured term loan credit facility from $20 million up to $30 million; the Company immediately borrowed $7.5 million of the additionally-authorized $10 million against two Secured Promissory Notes. The Company has the right until April 30, 2012 to elect to borrow the remaining available $2.5 million. The additional $7.5 million loan bears interest at (and the additional $2.5 million loan would bear interest at) a fixed rate equal to the greater of (i) 8.81% per year and (ii) the sum of (a) 8.34% plus (b) the 3-month LIBOR rate reported in The Wall Street Journal three business days before the loan amounts are funded to the Company, which interest, along with amortized principal, is payable on a monthly basis. The Company must also make an additional final payment at maturity equal to 6% of the total amount borrowed under the Amended Loan and Security Agreement. Amortization of the entire $27.5 million due to Oxford commences on March 1, 2013 and the maturity date of the term loans is August 1, 2014, and the other material terms of the Loan and Security Agreement remain unchanged.

In March 2011, the Company entered into a Loan and Security Agreement, or the Commercial Loan, with its commercial bank, Square 1 Bank, or Square 1. The Commercial Loan established a cash-collateralized revolving line of credit facility under which Square 1 agreed to loan up to $5.0 million to the Company. The Company immediately borrowed the full $5.0 million.

In April 2011, the Company entered into an amended Loan and Security Agreement (the "Square 1 Amended Loan") with Square 1. The Square 1 Amended Loan increased a cash-collateralized revolving line of credit facility by $5.0 million under which Square 1 agreed to loan up to $10.0 million to the Company. The Company immediately borrowed the additional $5.0 million. All outstanding amounts under the Agreement bear interest at a floating rate equal to 200 basis points above the prime rate. Interest is payable on a monthly basis.

The maturity date of the revolving line of credit facility is March 29, 2012. In January 2012, the Company repaid $4.5 million of the revolving line of credit facility.

Principal payments on long-term debt obligations subsequent to December 31, 2011 are as follows:

Year ending December 31,	Amount
2012	$ 0
2013	6,195
2014	13,805
	$20,000

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

17. Reductions in Workforce

In December 2010, the Company reduced its workforce by twenty-six positions, twenty of which were eliminated effective December 31, 2010 and six were eliminated in early 2011. Accrued severance costs of $85,000 were included in accrued compensation as of December 31, 2011.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

(a) Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, as of the end of the period covered by this report, December 31, 2011, which we refer to as the Evaluation Date.

As a result of a material weakness in our internal control over financial reporting relating to the accounting for significant non-routine transactions, our management has reassessed the effectiveness of our disclosure controls and procedures and have determined that our disclosure controls and procedures were not effective as of December 31, 2011.

Restatement of Consolidated Financial Statements. On February 6, 2012, management of the Company, concluded that the Company's unaudited condensed consolidated financial statements for the interim period ended March 31, June 30, and September 30, 2011, did not properly account for certain acquisition-related costs, and, therefore, should not be relied upon. As a result, management and the Audit Committee of the Company authorized and directed the officers of the Company to restate its unaudited interim financial statements. The restated 10-Q reports have been filed for the applicable periods.

Remediation Plan. Since the transaction date which resulted in this material weakness, 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 the acquisition of CyDex, which closed on January 24, 2011. This material weakness prevented us from properly reporting the financial information for previous interim periods, and we have filed restated 10-Q reports for the applicable periods. We enhanced our processes with the addition of a resource with the ability to research and understand the nuances of complex accounting standards. Management will continue to review and make necessary changes to the overall design of its internal control environment, as well as to policies and procedures to improve the overall effectiveness of internal control over financial reporting.

Changes in Internal Controls. Except as described above, there have been no changes in our internal controls over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal controls 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 the Company's 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 the Company's transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of the Company's financial statements in accordance with generally accepted accounting principles; providing reasonable assurance that receipts and expenditures of the Company are made in accordance with management and directors of the Company; and providing reasonable assurance that unauthorized acquisition, use or disposition of company assets that could have a material effect on the Company's 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 the Company's 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, our management concluded that our internal controls over financial reporting were ineffective as of December 31, 2011 based on a material weakness identified by management as a result of inadequate staffing. The material weakness led to a misstatement of transaction costs related to the acquisition of CyDex in our interim financial statements. We enhanced our processes with the addition of a corporate controller during the third quarter of 2011 with the ability to research and properly apply complex accounting standards. The Company will continue to review the updated control structure to ensure management's plan is effective in remediating the material weakness identified.

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, 2011, based on the COSO criteria; their report is included in Item 9A.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Ligand Pharmaceuticals Incorporated

We have audited Ligand Pharmaceuticals Incorporated's internal control over financial reporting as of December 31, 2011, based on criteria established *in Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Ligand Pharmaceuticals Incorporated'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. Our responsibility is to express an opinion on Ligand Pharmaceuticals Incorporated'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.

A material weakness is a deficiency, or combination of control deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weakness has been identified and included in management's assessment. The Company identified a material weakness in accounting for significant, non-routine transactions.

In our opinion, because of the effect of the material weakness described above on the achievement of the objectives of the control criteria, Ligand Pharmaceuticals Incorporated has not maintained effective internal control over financial reporting as of December 31, 2011, based on criteria established in *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 balance sheets of Ligand Pharmaceuticals Incorporated as of December 31, 2011 and 2010, and the related statement of operations, stockholders' equity (deficit) and comprehensive loss and cash flows for each of the three years in the period ended December 31, 2011. The material weakness

identified above was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2011 financial statements, and this report does not affect our report dated February 23, 2011, which expressed an unqualified opinion on those financial statements.

/s/ GRANT THORNTON LLP

San Diego, California
February 23, 2012

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, 11085 North Torrey Pines Road, Suite 100, La Jolla, CA 92037.

The other information under Item 10 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, 2012. See also the identification of the executive officers following Item 4 of this Annual Report on Form 10-K.

Item 11. Executive Compensation

Item 11 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, 2012.

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, 2012.

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

Item 13 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, 2012.

Item 14. Principal Accountant Fees and Services

Item 14 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, 2012.

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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

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(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(36)	Agreement and Plan of Merger, dated as of September 24, 2008, by and among Ligand Pharmaceuticals Incorporated, Pharmacopeia, Inc., Margaux Acquisition Corp. and Latour Acquisition, LLC. (Exhibit 2.1).
2.2(52)	Agreement and Plan of Merger, by and among the Company, Neurogen Corporation and Neon Signal, LLC, dated as of August 23, 2009 (Filed as Exhibit 10.1).
2.3(56)	Amendment to Agreement and Plan of Merger, by and among the Company, Neurogen Corporation, and Neon Signal, LLC, dated September 18, 2009 (Filed as Exhibit 10.1).
2.4(56)	Amendment No. 2 to Agreement and Plan of Merger, by and among the Company, Neurogen Corporation, and Neon Signal, LLC, dated November 2, 2009 (Filed as Exhibit 10.2).
2.5(54)	Amendment No. 3 to Agreement and Plan of Merger, by and among the Company, Neurogen Corporation, and Neon Signal, LLC, dated November 2, 2009 (Filed as Exhibit 10.2).
2.6(53)	Certificate of Merger for acquisition of Neurogen Corporation (Filed as Exhibit 2.1).
2.7(57)	Agreement and Plan of Merger, dated as of October 26, 2009, by and among the Company, Metabasis Therapeutics, Inc., and Moonstone Acquisition, Inc. (Filed as Exhibit 10.1).
2.8(55)	Amendment to Agreement and Plan of Merger, by and among the Company, Metabasis Therapeutics, Inc., Moonstone Acquisition, Inc., and David F. Hale as Stockholders' Representative, dated November 25, 2009
2.9(63)	Certificate of Merger for acquisition of Metabasis Therapeutics, Inc. dated January 27, 2010 (Filed as Exhibit 2.1).
2.10(68)	Certificate of Merger, dated and filed January 24, 2011 (Filed as Exhibit 2.1).
2.11(68)	Agreement and Plan of Merger, by and among the Company, CyDex Pharmaceuticals, Inc., and Caymus Acquisition, Inc., dated January 14, 2011 (Filed as Exhibit 10.1).
3.1(1)	Amended and Restated Certificate of Incorporation of the Company. (Filed as Exhibit 3.2).
3.2(1)	Bylaws of the Company, as amended. (Filed as Exhibit 3.3).

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Exhibit Number	Description
3.3(2)	Amended Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of the Company.
3.4(12)	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated June 14, 2000.
3.5(3)	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated September 30, 2004.
3.6(20)	Amendment to the Bylaws of the Company dated November 13, 2005. (Filed as Exhibit 3.1).
3.7(34)	Amendment of Bylaws of the Company dated December 4, 2007. (Filed as Exhibit 3.1).
3.8(67)	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated November 17, 2010 (Filed as Exhibit 3.1).
4.1(4)	Specimen stock certificate for shares of Common Stock of the Company.
4.2(27)	2006 Preferred Shares Rights Agreement, by and between Ligand Pharmaceuticals Incorporated and Mellon Investor Services LLC, dated as of October 13, 2006. (Filed as Exhibit 4.1)
10.1(4)	Agreement, dated May 1, 1991, between the Company and Pfizer Inc (with certain confidential portions omitted).
10.2(4)	License Agreement, dated January 5, 1990, between the Company and the University of North Carolina at Chapel Hill (with certain confidential portions omitted).
10.3(4)	Form of Indemnification Agreement between the Company and each of its directors.
10.4(4)	Form of Indemnification Agreement between the Company and each of its officers.
10.5(4)	Stock Purchase Agreement, dated September 9, 1992, between the Company and Glaxo, Inc.
10.6(4)	Research and Development Agreement, dated September 9, 1992, between the Company and Glaxo, Inc. (with certain confidential portions omitted).
10.7(8)	Supplementary Agreement, dated October 1, 1993, between the Company and Pfizer, Inc. to Agreement, dated May 1, 1991.
10.8(9)	Option Agreement, dated September 2, 1994, between the Company and American Home Products Corporation, as represented by its Wyeth-Ayerst Research Division (with certain confidential portions omitted). (Filed as Exhibit 10.80).
10.9(5)	Research, Development and License Agreement, dated December 29, 1994, between SmithKline Beecham Corporation and the Company (with certain confidential portions omitted).
10.10(10)	Lease, dated July 6, 1994, between the Company and Chevron/Nexus partnership, First Amendment to lease dated July 6, 1994.
10.11(11)	Settlement Agreement and Mutual Release of all Claims, signed April 20, 1996, between the Company and Pfizer, Inc. (with certain confidential portions omitted).
10.12(6)	Letter of Agreement dated September 28, 1998 among the Company, Elan Corporation, plc and Elan International Services, Ltd. (with certain confidential portions omitted), (Filed as Exhibit 10.5).
10.13(7)	Stock Purchase Agreement by and between the Company and Warner-Lambert Company dated September 1, 1999 (with certain confidential portions omitted). (Filed as Exhibit 10.2).

Exhibit Number	Description
10.14(7)	License Agreement effective June 30, 1999 by and between the Company and X-Ceptor Therapeutics, Inc. (with certain confidential portions omitted). (Filed as Exhibit 10.7).
10.15(13)	Purchase Agreement, dated March 6, 2002, between the Company and Pharmaceutical Royalties International (Cayman) Ltd.
10.16(14)	Amendment Number 1 to Purchase Agreement, dated July 29, 2002, between the Company and Pharmaceutical Royalties International (Cayman) Ltd.
10.17(15)	Amended and Restated License and Supply Agreement, dated December 6, 2002, between the Company, Elan Corporation, plc and Elan Management Limited (with certain confidential portions omitted).
10.18(15)	Amendment Number 1 to Amended and Restated Registration Rights Agreement, dated November 12, 2002, between the Company and Elan Corporation plc and Elan International Services, Ltd.
10.19(15)	Second Amendment to Purchase Agreement, dated December 19, 2002, between the Company and Pharmaceuticals Royalties International (Cayman) Ltd.
10.20(15)	Amendment Number 3 to Purchase Agreement, dated December 30, 2002, between the Company and Pharmaceuticals Royalties International (Cayman) Ltd. (with certain confidential portions omitted).
10.21(15)	Purchase Agreement, dated December 30, 2002, between the Company and Pharmaceuticals Royalties International (Cayman) Ltd. (with certain confidential portions omitted).
10.22(16)	Co-Promotion Agreement, dated January 1, 2003, by and between the Company and Organon Pharmaceuticals USA Inc. (with certain confidential portions omitted).
10.23(17)	Amendment No. 2 to Amended and Restated Registration Rights Agreement, dated June 25, 2003.
10.24(18)	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 (with certain confidential portions omitted).
10.25(18)	Amendment to Purchase Agreement Between Royalty Pharma Finance Trust and the Company, dated October 1, 2003 (with certain confidential portions omitted).
10.26(22)	2002 Stock Incentive Plan (as amended and restated through March 9, 2006).
10.27(18)	2002 Employee Stock Purchase Plan, dated July 1, 2002 (as amended through June 30, 2003).
10.28(18)	Form of Stock Option Agreement.
10.29(18)	Form of Employee Stock Purchase Plan Stock Purchase Agreement.
10.30(18)	Form of Automatic Stock Option Agreement.
10.31(18)	Form of Director Fee Stock Option Agreement.
10.32(19)	Manufacturing and Packaging Agreement, dated February 13, 2004 between Cardinal Health PTS, LLC and the Company (with certain confidential portions omitted).
10.33(21)	Form of Distribution, Storage, Data and Inventory Management Services Agreement.
10.34(21)	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 Ligand Pharmaceuticals Incorporated dated November 5, 2004.

Exhibit Number	Description
10.35(21)	Amendment to Purchase Agreement between Royalty Pharma Finance Trust, Ligand Pharmaceuticals Incorporated & Investors Trust and Custodial Services (Ireland) Ltd., solely in its capacity as Trustee of Royalty Pharma dated November 5, 2004.
10.36(22)	Amended and Restated Research, Development and License Agreement dated as of December 1, 2005 between the Company and Wyeth (formerly American Home Products Corporation) (with certain confidential portions omitted).
10.37(22)	Form of Stock Issuance Agreement for non-employee directors.
10.38(22)	Form of Amended and Restated Director Fee Stock Option Agreement for 2005 award to Henry Blissenbach, John Groom, Irving Johnson, John Kozarich, Daniel Loeb, Carl Peck, Jeffrey Perry, Brigette Roberts and Michael Rocca.
10.39(23)	Termination and Return of Rights Agreement between Ligand Pharmaceuticals Incorporated and Organon USA Inc. dated as of January 1, 2006
10.40(24)	First Amendment to the Manufacturing and Packaging Agreement between Cardinal Health PTS, LLC and Ligand Pharmaceuticals Incorporated (with certain confidential portions omitted).
10.41(25)	Purchase Agreement, by and between Ligand Pharmaceuticals Incorporated, King Pharmaceuticals, Inc. and King Pharmaceuticals Research and Development, Inc., dated as of September 6, 2006.
10.42(26)	Contract Sales Force Agreement, by and between Ligand Pharmaceuticals Incorporated and King Pharmaceuticals, Inc. dated as of September 6, 2006.
10.43(25)	Purchase Agreement, by and among Ligand Pharmaceuticals Incorporated, Seragen, Inc., Eisai Inc. and Eisai Co., Ltd., dated as of September 7, 2006.
10.44(31)	Stipulation of Settlement by and among Plaintiffs and Ligand Pharmaceuticals, Inc. et al., In re Ligand Pharmaceuticals Inc. Securities Litigation, United States District Court, District of Southern California, dated as of June 28, 2006, approved by Order dated October 16, 2006.
10.45(31)	Stipulation of Settlement by and among Plaintiffs and Ligand Pharmaceuticals, Inc. et al., In re Ligand Pharmaceuticals Inc. Derivative Litigation, Superior Court of California, County of San Diego, dated as of September 19, 2006, approved by Order dated October 12, 2006.
10.46(31)	Loan Agreement by and between Ligand Pharmaceuticals Incorporated and King Pharmaceuticals, 303 Inc. dated as of October 12, 2006.
10.47(29)	Letter Agreement by and between Ligand and King Pharmaceuticals, Inc. effective as of December 29, 2006.
10.48(29)	Amendment Number 1 to Purchase Agreement, Contract Sales Force Agreement and Confidentiality Agreement by and between Ligand and King Pharmaceuticals, Inc. effective as of November 30, 2006.
10.49(28)	Purchase Agreement and Escrow Instructions by and between Nexus Equity VI, LLC, a California Limited Liability Company, and Ligand Pharmaceuticals Incorporated, a Delaware Corporation and Slough Estates USA Inc., a Delaware corporation dated October 25, 2006.
10.50(31)	2006 Employee Severance Plan dated as of October 4, 2006.
10.51(31)	Form of Letter Agreement regarding Change of Control Severance Benefits between the Company and its officers.
10.52(29)	Letter Agreement by and between the Company and John L. Higgins dated as of January 10, 2007.

Exhibit Number	Description
10.53(30)	Amendment Number 2 to Purchase Agreement, by and between the Company and King Pharmaceuticals, Inc. effective as of February 26, 2007.
10.54(32)	Letter Agreement by and between the Company and John P. Sharp dated as of March 30, 2007. (Filed as Exhibit 10.1).
10.55(33)	Form of Executive Officer Change in Control Severance Agreement. (Filed as Exhibit 10.1).
10.56(35)	Sublease Agreement between the Company and eBIOSCIENCE, INC., effective as of December 13, 2007. (Filed as Exhibit 10.1).
10.57(37)	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Company's 2002 Stock Incentive Plan. (Filed as Exhibit 10.318).
10.58(37)	Form of Amendment to Restricted Stock Agreement for executive officers other than Chief Executive Officer. (Filed as Exhibit 10.319).
10.59(37)	Amendment to Restricted Stock Agreement between the Company and John L. Higgins. (Filed as Exhibit 10.320).
10.60(47)	Collaboration and License Agreement, dated as of July 9, 2003 and effective August 8, 2003, between Pharmacopeia, Inc. and Schering-Plough Ltd. (with certain confidential portions omitted).
10.61(47)	Collaboration and License Agreement, dated as of July 9, 2003 and effective August 8, 2003, between Pharmacopeia, Inc. and Schering Corporation (with certain confidential portions omitted).
10.62(39)	Amendment No. 1, dated July 27, 2006, to the Collaboration and License Agreements, effective as of July 9, 2003, between (i) Pharmacopeia, Inc. and Schering Corporation and (ii) Pharmacopeia, Inc. and Schering-Plough Ltd. (Filed as Exhibit 10.1).
10.63(47)	Lease, dated August 20, 2003, between Pharmacopeia, Inc. and Eastpark at 8A (Building 1000).
10.64(40)	Amendment to Lease, dated September 10, 2007, between Eastpark at 8A and Pharmacopeia, Inc. (Building 1000). (Filed as Exhibit 10.1).
10.65(47)	Lease, dated August 20, 2003, between Pharmacopeia, Inc. and Eastpark at 8A (Building 3000).
10.66(40)	Amendment to Lease, dated April 18, 2007, between Eastpark at 8A and Pharmacopeia, Inc. (Building 3000). (Filed as Exhibit 10.2).
10.67(41)	License Agreement, dated as of March 27, 2006, between Pharmacopeia, Inc. and Bristol-Myers Squibb Company (Filed as Exhibit 10.2).
10.68(42)	Collaboration and License Agreement between Pharmacopeia, Inc. and Cephalon, Inc., dated May 18, 2006. (Filed as Exhibit 10.1).
10.69(43)	License Agreement, amended and restated as of July 1, 2003, among The Trustees of Columbia University in the City of New York, Cold Spring Harbor Laboratory and Pharmacopeia, Inc. (Filed as Exhibit 10.2).
10.70(44)	Collaboration and License Agreement, amended and restated effective as of February 8, 2007, between Pharmacopeia, Inc. and N.V. Organon. (Filed as Exhibit 10.1).
10.71(45)	License Agreement, dated October 11, 2007, between Bristol-Myers Squibb Company and Pharmacopeia, Inc. (Filed as Exhibit 10.45).

Exhibit Number	Description
10.72(38)	Contingent Value Rights Agreement, dated December 23, 2008, among the Company, Pharmacopeia, Inc. and Mellon Investor Services LLC. (Filed as Exhibit 10.1).
10.73(37)	Amended and Restated Severance Plan, dated December 20, 2008, of the Company. (Filed as Exhibit 10.2).
10.74(46)	Settlement Agreement and Mutual Release of all Claims, by and between the Company and The Salk Institute for Biological Studies, dated as of September 2, 2008 (Filed as Exhibit 10.316).
10.75(47)	License Agreement, dated of December 17, 2008, between the Company and SmithKline Beecham Corporation, doing business as GlaxoSmithKline (with certain confidential portions omitted) (Filed as Exhibit 10.346).
10.76(48)	Settlement Agreement and Mutual Release, by and between the Company and The Rockefeller University, dated as of February 11, 2009 (Filed as Exhibit 10.318).
10.77(49)	Exclusive Patent License Agreement, by and between Glycomed, Inc., a wholly owned subsidiary of the Company and ParinGenix Inc, dated as of June 18, 2009 (Filed as Exhibit 10.321).
10.78(49)	Amended and Restated Director Compensation and Stock Ownership Policy, effective as of April 16, 2009 (Filed as Exhibit 10.322).
10.79(50)	Research Collaboration Termination Agreement, between the Company and N.V. Organon, dated as of July 29, 2009 (Filed as Exhibit 10.323).
10.80(51)	Lease, between the Company and HCP TPSP, LLC, dated August 7, 2009 (Filed as Exhibit 10.321).
10.81(51)	Lease Termination Agreement, between the Company and TPSC IX, LLC, dated August 7, 2009 (Filed as Exhibit 10.322).
10.82(53)	H3 Contingent Value Rights Agreement (Filed as Exhibit 10.3).
10.83(53)	Merck Contingent Value Rights Agreement (Filed as Exhibit 10.4).
10.84(58)	Collaborative Research Agreement and License and Royalty Agreement between Neurogen Corporation and Pfizer Inc, dated as of January 1, 1992 (Filed as Exhibit 10.35) (File No. 000-18311).
10.85(59)	Collaborative Research Agreement and License and Royalty Agreement between Neurogen Corporation and Pfizer Inc, dated as of July 1, 1994 (Filed as Exhibit 10.1) (File No. 000-18311).
10.86(60)	Collaboration and License Agreement and Screening Agreement between Neurogen Corporation and Schering-Plough Corporation (Filed as Exhibit 10.1) (File No. 000-18311).
10.87(61)	Collaborative Research Agreement between Neurogen Corporation and Pfizer dated as of November 1, 1995 (Filed as Exhibit 10.1) (File No. 000-18311).
10.88(61)	Development and Commercialization Agreement between Neurogen Corporation and Pfizer dated as of November 1, 1995 (Filed as Exhibit 10.2) (File No. 000-18311).
10.89(62)	Collaboration and License Agreement dated as of November 24, 2003 between Neurogen Corporation and Merck Sharp & Dohme Limited (Filed as Exhibit 10.43) (File No. 000-18311).
10.90(62)	Stock Purchase Agreement dated as of November 24, 2003 between Neurogen Corporation and Merck Sharp & Dohme Limited (Filed as Exhibit 10.43) (File No. 000-18311).

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Exhibit Number	Description
10.91(63)	TR Beta Contingent Value Rights Agreement, dated January 27, 2010, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC. (Filed as Exhibit 10.2).
10.92(63)	Glucagon Contingent Value Rights Agreement, dated January 27, 2010, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC. (Filed as Exhibit 10.3).
10.93(63)	General Contingent Value Rights Agreement, dated January 27, 2010, among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC. (Filed as Exhibit 10.4).
10.94(69)	Amendment of "General" Contingent Value Rights Agreement, dated January 26, 2011 [original agreement was dated January 27, 2010] (filed as Exhibit 10.1).
10.95(64)	Purchase and Sale Agreement, dated May 18, 2010, between the Company and The Genaera Liquidating Trust (Filed as Exhibit 10.1).
10.96(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 Valude Fund II, L.P. and Investment 10, L.L.C. (Filed as Exhibit 10.1).
10.97(66)	Asset Purchase Agreement, dated as of July 30, 2010, between Wyeth LLC, Pharmacopeia, Inc. and the Company (Filed as Exhibit 10.1).
10.98(68)	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 (Filed as Exhibit 10.2).
10.99(68)	Loan and Security Agreement, by and among the Company, its subsidiaries and Oxford Finance Corporation, dated January 24, 2011 (Filed as Exhibit 10.3).
10.100(71)	Supply Agreement, dated December 20, 2002, between CyDex and Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (with certain confidential portions omitted)
10.101(71)	First Amendment to the Supply Agreement, dated July 29, 2005, between CyDex and Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (with certain confidential portions omitted)
10.102(71)	2nd Amendment to the Supply Agreement of December 20, 2002 and amended July 29, 2005, dated March 1, 2007, between CyDex and Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited
10.103(71)	3rd Amendment to the Supply Agreement of December 20, 2002 and amended July 29, 2005 and March 1, 2007, dated January 25, 2008, between CyDex and Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (with certain confidential portions omitted)
10.104(71)	4th Amendment to the Supply Agreement of December 20, 2002 and amended July 29, 2005, March 1, 2007, and January 25, 2008, amended September 28, 2009 between CyDex and Hovione LLC, Hovione FarmaCiencia S.A., Hovione Pharmascience Limited, and Hovione International Limited (with certain confidential portions omitted)
10.105(71)	License Agreement, dated September 3, 1993, between CyDex and The University of Kansas (with certain confidential portions omitted)

Exhibit Number	Description
10.106(71)	Second Amendment to the License Agreement of September 3, 1993, dated August 4, 2004, between CyDex and The University of Kansas (with certain confidential portions omitted)
10.107(71)	Exclusive License Agreement, dated June 4, 1996, between Pfizer, Inc. and CyDex (with certain confidential portions omitted)
10.108(71)	Nonexclusive License Agreement, dated June 4, 1996, between Pfizer, Inc. and CyDex (with certain confidential portions omitted)
10.109(71)	Addendum to Nonexclusive License Agreement of June 4, 1996, dated December 11, 2001, between CyDex and Pfizer, Inc. (with certain confidential portions omitted)
10.110(71)	Acknowledgement agreement, dated March 3, 2008, between CyDex and The University of Kansas (with certain confidential portions omitted)
10.111(71)	License Agreement, dated January 4, 2006, between CyDex and Prism Pharmaceuticals (with certain confidential portions omitted)
10.112(71)	Amendment to License Agreement, dated May 12, 2006 between CyDex and Prism Pharmaceuticals (with certain confidential portions omitted)
10.113(71)	Supply Agreement, dated March 5, 2007, between CyDex and Prism Pharmaceuticals (with certain confidential portions omitted)
10.114(71)	License and Supply Agreement, dated October 12, 2005 between CyDex and Proteolix, Inc. (with certain confidential portions omitted)(Filed as Exhibit 10.22)(File No. 000-28298)
10.115(72)	Amendment to General Contingent Value Rights Agreement of January 27, 2010, dated January 27, 2011 among the Company, Metabasis Therapeutics, Inc., David F. Hale and Mellon Investor Services LLC. (Filed as Exhibit 10.1)
10.116(73)	License Agreement, dated March 24, 2011 by and between the Company and Chiva Pharmaceuticals, Inc. (Filed as Exhibit 10.23)
10.117(74)	Loan and Security Agreement, by and between Ligand Pharmaceuticals Incorporated and Square 1 Bank, dated March 31, 2011 (Filed as Exhibit 10.23)
10.118(75)	First Amendment to Loan and Security Agreement, by and between Ligand Pharmaceuticals Incorporated and Square 1 Bank, dated April 29, 2011 (Filed as Exhibit 10.1)
10.119(75)	First Amendment to Loan and Security Agreement, by and between Ligand Pharmaceuticals Incorporated and Oxford Finance LLC, dated April 29, 2011 (Filed as Exhibit 10.2)
10.120(76)	License Agreement, by and between CyDex and the Medicines Company, dated June 1, 2011 (with certain confidential portions omitted) (Filed as Exhibit 10.25)
10.121(76)	Supply Agreement, by and between CyDex and the Medicines Company, dated June 1, 2011 (with certain confidential portions omitted) (Filed as Exhibit 10.26)
10.122(76)	Supply Agreement dated June 13, 2011 by and between CyDex and Merck (with certain confidential portions omitted) (Filed as Exhibit 10.27)
10.123(77)	First Amendment to License Agreement between the Company and Chiva Pharmaceuticals, Inc. dated as of August 31, 2011 (Filed as Exhibit 10.1)
10.124(78)	Lease Agreement, dated September 5, 2011 between the Company and ARE-SD Region No. 24, LLC. (Filed as Exhibit 10.1)

Exhibit Number	Description
10.125(78)	License Agreement, dated September 5, 2011 between the Company and ARE-3535/3565 General Atomics Court, LLC (Filed as Exhibit 10.2)
10.126(77)	Amendment to Lease Agreement dated November 1, 2011 between the Company and HCP TPSP, LLC (Filed as Exhibit 10.4)
10.127(79)	Letter Agreement, dated September 29, 2011, between the Company and Biotechnology Value Fund, L.P. (Filed as Exhibit 10.1)
10.128(77)	License Agreement, dated October 7, 2011, between the Company and Chiva Pharmaceuticals, Inc. (with certain confidential portions omitted) (Filed as Exhibit 10.6)
10.129(77)	License Agreement, dated October 13, 2011, between CyDex and SAGE Therapeutics, Inc. (with certain confidential portions omitted) (Filed as Exhibit 10.7)
10.130	Joinder and Second Amendment, dated October 28, 2011, by and among the Company, its subsidiaries and Oxford Finance LLC
10.131†	License Agreement, dated December 16, 2011, between CyDex and Eli Lilly and Company (with certain confidential portions omitted)
10.132†	Supply Agreement, dated December 16, 2011, between CyDex and Eli Lilly and Company (with certain confidential portions omitted)
10.133†	License and Supply Agreement, dated December 22, 2011 between CyDex and Hospira, Inc. (with certain confidential portions omitted)
10.134	Fourth Amendment to Loan and Security Agreement, by and among the Company, its subsidiaries and Oxford Finance LLC
14.1(18)	Code of Business Conduct and Ethics.
21.1	Subsidiaries of Registrant.
23.1	Consent of independent registered public accounting firm-Grant Thornton LLP
24.1	Power of Attorney (See page 102).
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.
101.1**	The following financial information from the Company's Quarterly Report on Form 10-K for the period ended December 2011, formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets, (ii) Condensed Consolidated Statements of Operations, (iii) Condensed Consolidated Statements of Cash Flows, and (iv) the Notes to Condensed Consolidated Financial Statements, tagged as blocks of text.

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

* These certifications are being furnished solely to accompany this annual report pursuant to 18 U.S.C. Section 1350, and are not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and are not to be incorporated by reference into any filing of Somaxon Pharmaceuticals, Inc., whether made before or after the date hereof, regardless of any general incorporation language in such filing.

** Pursuant to Rule 406T of Regulation S-T, these interactive data files are deemed not filed or part of a registration statement or prospectus for purposes of Section 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under these sections.

(1) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Registration Statement on Form S-4 (No. 333-58823) filed on July 9, 1998.

(2) This exhibit was previously filed as part of and is hereby incorporated by reference to same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31, 1999.

(3) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2004.

(4) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended.

(5) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Registration Statement on Form S-1/S-3 (No. 33-87598 and 33-87600) filed on December 20, 1994, as amended.

(6) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1998.

(7) This exhibit was previously filed as part of and is hereby incorporated by reference to the numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1999.

(8) This exhibit was previously filed as part of, and are hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 1993.

(9) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 1994.

(10) This exhibit was previously filed, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 1995.

(11) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly report on Form 10-Q for the period ended June 30, 1996.

(12) This exhibit was previously filed as part of, and are hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2000.

(13) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2002.

(14) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2002.

(15) This exhibit was previously filed as part of, and are hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2002.

(16) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2003.

(17) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2003.
(18) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2003.
(19) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2004.
(20) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on November 14, 2005.
(21) This exhibit was previously filed as part of, and are hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2004.
(22) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Registration Statement on Form S-1 (no. 333-131029) filed on January 13, 2006 as amended.
(23) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with an Amendment to the Company's Registration Statement on Form S-1 (No. 333-1031029) filed on February 10, 2006.
(24) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2006.
(25) This exhibit was previously filed as part of, and is being incorporated by reference to the numbered exhibit filed with the Company's Current Report Form 8-K filed on September 11, 2006.
(26) This exhibit was previously filed as part of, and is being incorporated by reference to the numbered exhibit filed with the Company's Current Report Form 8-K filed on September 12, 2006.
(27) This exhibit was previously filed as part of, and is being incorporated by reference to the numbered exhibit filed with the Company's Current Report Form 8-K filed on October 17, 2006.
(28) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on October 31, 2006.
(29) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on January 5, 2007.
(30) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on February 28, 2007.
(31) This exhibit was previously filed as part of, and are hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2006.
(32) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on May 4, 2007.
(33) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on August 22, 2007.
(34) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on December 6, 2007.
(35) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on December 19, 2007.
(36) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on September 26, 2008.
(37) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the period ended December 31, 2007.
(38) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Pharmacopeia, Inc.'s Current Report on Form 8-K filed on May 3, 2004.
(39) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Pharmacopeia, Inc.'s Current Report on Form 8-K filed on August 2, 2006.

(40) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2007.
(41) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2006.
(42) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2006.
(43) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2005.
(44) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Quarterly Report on Form 10-Q for the period ended March 31, 2007.
(45) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2007.
(46) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Pharmacopeia, Inc.'s Quarterly Report on Form 10-Q for the period ended September 30, 2008.
(47) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the period ended December 31, 2008.
(48) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2009.
(49) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2009.
(50) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2009.
(51) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on August 11, 2009.
(52) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on August 24, 2009.
(53) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on December 24, 2009.
(54) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on December 17, 2009.
(55) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on December 1, 2009.
(56) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on November 6, 2009.
(57) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on October 28, 2009.
(58) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with Neurogen Corporation's Annual Report on Form 10-K for the period ended December 31, 1991.
(59) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with Neurogen Corporation's Quarterly Report on Form 10-Q for the period ended June 30, 1994.

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(60) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with Neurogen Corporation's Current Report on Form 8-K filed on July 28, 1995.
(61) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with Neurogen Corporation's Current Report on Form 8-K filed on November 1, 1995.
(62) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with Neurogen Corporation's Annual Report on Form 10-K for the period ended December 31, 2003.
(63) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on January 28, 2010.
(64) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on May 24, 2010.
(65) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2010.
(66) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2010.
(67) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on November 19, 2010.
(68) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on January 26, 2011.
(69) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on January 31, 2011.
(70) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with Onyx Pharmaceuticals, Inc.'s Annual Report on Form 10-K for the period ended December 31, 2009.
(71) This exhibit was previously filed as part of, and are hereby incorporated by reference to the same numbered exhibit filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2011.
(72) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on January 31, 2011.
(73) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31 30, 2011.
(74) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on April 4, 2011.
(75) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on April 29, 2011.
(76) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2011.
(77) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended September 30, 2011.
(78) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on September 9, 2011.
(79) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Current Report on Form 8-K filed on September 30, 2011.

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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 23, 2012

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, as amended, 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 23, 2012
/s/ JOHN P. SHARP **John P. Sharp**	Vice President, Finance and Chief Financial Officer (Principal Financial and Accounting Officer)	February 23, 2012
/s/ JASON M. ARYEH **Jason M. Aryeh**	Director	February 23, 2012
/s/ TODD C. DAVIS **Todd C. Davis**	Director	February 23, 2012
/s/ DAVID M. KNOTT **David M. Knott**	Director	February 23, 2012
/s/ JOHN W. KOZARICH **John W. Kozarich**	Director	February 23, 2012
/s/ JOHN L. LAMATTINA **John L. LaMattina**	Director	February 23, 2012
/s/ SUNIL PATEL **Sunil Patel**	Director	February 23, 2012
/s/ STEPHEN L. SABBA **Stephen L. Sabba**	Director	February 23, 2012

EXHIBIT 10.130

JOINDER AND SECOND AMENDMENT

TO LOAN AND SECURITY AGREEMENT

This Joinder and Second Amendment to Loan and Security Agreement (this "**Amendment**") is entered into this 28th day of October, 2011 (the "**Amendment Date**"), by and among OXFORD FINANCE LLC, successor in interest to Oxford Finance Corporation ("**Oxford**"), Oxford in its capacity as collateral agent on behalf of the Lenders (the "**Collateral Agent**"); the Lenders including Oxford in its capacity as a Lender (each a "**Lender**" and collectively, the "**Lenders**"); and LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation, whose address is 11085 N. Torrey Pines Road, Suite 300, La Jolla, CA 92037, and the additional Persons signing this Amendment as Borrowers (individually, a "**Borrower**", and collectively, the "**Borrowers**").

RECITALS

A. Collateral Agent, Lenders and Borrowers (other than Cydex (defined below), collectively, "**Existing Borrowers**") have entered into that certain Loan and Security Agreement dated as of January 24, 2011, as amended by that certain First Amendment to Loan and Security Agreement dated April 29, 2011 (as the same may from time to time be further amended, modified, supplemented or restated, collectively, the "**Loan Agreement**"). The Loan Agreement and all other documents, instruments and agreements evidencing, securing or otherwise related to the obligations of Existing Borrowers to Lenders are hereinafter collectively referred to as the "**Existing Loan Documents**."

B. Lenders extended credit to Existing Borrowers for the purposes permitted in the Loan Agreement.

C. Existing Borrowers have informed Collateral Agent that Ligand Pharmaceuticals Incorporated acquired a subsidiary on January 24, 2011, namely Cydex Pharmaceuticals, Inc., a Delaware corporation ("**Cydex**"). As required by Section 6.11 of the Loan Agreement, Existing Borrowers and Cydex are required to take such action to cause Cydex to become a Borrower under the Loan Agreement.

D. Existing Borrowers together with Cydex have requested that Collateral Agent and Lenders (1) consent to Cydex joining and assuming the obligations and liabilities (the "**Joinder**") of Existing Borrowers, to the Lenders, pursuant to the Existing Loan Documents, and (2) amend the Loan Agreement to (i) add Cydex as a Borrower under the Loan Agreement and (ii) make certain other revisions to the Loan Agreement as more fully set forth herein.

E. Collateral Agent and Lenders have agreed to amend certain provisions of the Loan Agreement, but only to the extent, in accordance with the terms, subject to the conditions and in reliance upon the representations and warranties set forth below.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

1. DEFINITIONS. Except as set forth herein, capitalized terms used but not defined in this Amendment shall have the meanings given to them in the Loan Agreement.

2. JOINDER TO LOAN AGREEMENT. The undersigned, Cydex together with Existing Borrowers, jointly, severally, individually and collectively, the "**Borrowers**", hereby joins the Loan Agreement and each of the Existing Loan Documents, and agrees to comply with and be bound by all of the terms, conditions and covenants of the Loan Agreement and Existing Loan Documents, including without limitation Section 12.11 of the Loan Agreement, as if it were originally named a "**Borrower**" therein. Without limiting the generality of the preceding sentence, Cydex agrees that it will be jointly and severally liable, together with the Existing Borrowers, for the payment and performance of all obligations and liabilities of the Borrowers under the Loan Agreement, including, without limitation, the Obligations. Each Borrower hereunder shall be obligated to repay all Credit Extensions made hereunder, regardless of which Borrower actually receives said Credit Extension as if each Borrower hereunder directly received all Credit Extensions.

3. GRANT OF SECURITY INTEREST. To secure the prompt payment and performance of all of the Obligations, Cydex hereby grants to the Collateral Agent, for the ratable benefit of the Lenders, a continuing lien upon and security interest in the Collateral, as described on Annex A attached hereto, to secure performance and payment of all Obligations under the Loan Agreement. Cydex further covenants and agrees that by its execution hereof it shall provide all such information, complete all such forms, and take all such actions, and enter into all such agreements, in form and substance reasonably satisfactory to the Collateral Agent that are reasonably deemed necessary by the Collateral Agent in order to grant a valid, perfected security interest to the Collateral Agent, for the ratable benefit of the Lenders, in the Collateral. Cydex hereby authorizes Collateral Agent to file financing statements, without notice to any Borrower, with all appropriate jurisdictions in order to perfect or protect Lenders' interest or rights hereunder, including a notice that any disposition of the Collateral, by either the Borrowers or any other Person, shall be deemed to violate the rights of the Lenders under the Code.

4. AMENDMENTS TO THE LOAN AGREEMENT.

4.1 Section 12.1 (Successors and Assigns). Section 12.1 of the Loan Agreement is hereby amended in its entirety to read as follows:

12.1 Successors and Assigns. This Agreement binds and is for the benefit of the successors and permitted assigns of each party. Borrowers may not transfer, pledge or assign this Agreement or any rights or obligations under it without Collateral Agent's prior written consent (which may be granted or withheld in Collateral Agent's discretion, subject to Section 12.6). The Lenders have the right, without the consent of or notice to any Borrower, to sell, transfer, assign, pledge, negotiate, or grant participation in (any such sale, transfer, assignment, negotiation, or grant of a participation, a "**Lender Transfer**") all or any part of, or any interest in, the Lenders' obligations, rights, and benefits under this Agreement and the other Loan Documents *provided*, *however*, that any such Lender Transfer (other than a transfer, pledge, sale or assignment to an Eligible Assignee) of its obligations, rights, and benefits under this Agreement and the other Loan Documents shall require the prior written consent of the Required Lenders (such approved assignee, an "**Approved Lender**"). Borrowers and Collateral Agent shall be entitled to continue to deal solely and directly with such Lender in connection with the interests so assigned until Collateral Agent shall have received and accepted an effective assignment agreement in form satisfactory to Collateral Agent executed, delivered and fully completed by the applicable parties thereto, and shall have received such other information regarding such Eligible Assignee or Approved Lender as Collateral Agent reasonably shall require.

4.2 Section 14.1 (Definitions). The defined term "**Eligible Assignee**" in Section 14.1 of the Loan Agreement is amended and restated as follows:

"**Eligible Assignee**" means (i) a Lender, (ii) an Affiliate of a Lender, (iii) an Approved Fund and (iv) any commercial bank, savings and loan association or savings bank or any other entity which is an "accredited investor" (as defined in Regulation D under the Securities Act of 1933, as amended) and which extends credit or buys loans as one of its businesses, including insurance companies, mutual funds, lease financing companies and commercial finance companies, in each case, which either (A) has a rating of BBB or higher from Standard & Poor's Rating Group and a rating of Baa2 or higher from Moody's Investors Service, Inc. at the date that it becomes a Lender or (B) has total assets in excess of $5,000,000,000, and in each case of clauses (i) through (iv), which, through its applicable lending office, is capable of lending to a Borrower without the imposition of any withholding or similar taxes; provided that notwithstanding the foregoing, "**Eligible Assignee**" shall not include (i) any Borrower, Guarantor or any of any Borrower's or Guarantor's Affiliates or Subsidiaries or (ii) unless an Event of Default has occurred and is continuing, a direct competitor of any Borrower or Guarantor or a vulture hedge fund, each as determined by Collateral Agent. Notwithstanding the foregoing, (x) in connection with assignments by a Lender due to a forced divestiture at the request of any regulatory agency, the restrictions set forth herein shall not apply and Eligible Assignee shall mean any Person or party and (y) in connection with a Lender's own financing or securitization transactions, the restrictions set forth herein shall not apply and Eligible Assignee shall mean any Person or party providing such financing or formed to undertake such securitization transaction and any transferee of such Person or party; provided that no such sale, transfer, pledge or assignment under this clause (y) shall release such Lender from any of its obligations hereunder or substitute any such Person or party for such Lender as a party hereto until Collateral Agent shall have received and accepted an effective assignment agreement from such Person or party in form satisfactory to Collateral Agent executed, delivered and fully completed by the applicable parties thereto, and shall have received such other information regarding such Eligible Assignee as Collateral Agent reasonably shall require.

5. Representations and Warranties. To induce Collateral Agent and Lenders to enter into this Amendment, each Borrower hereby represents and warrants to Collateral Agent and Lenders as follows:

5.1 Immediately after giving effect to this Amendment (a) the representations and warranties contained in the Loan Documents are true, accurate and complete in all material respects as of the date hereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct as of such date), and (b) no Event of Default has occurred and is continuing;

5.2 Borrower has the power and due authority to execute and deliver this Amendment and to perform its obligations under the Loan Agreement, as amended by this Amendment;

5.3 The organizational documents of Borrower delivered to Collateral Agent on the Effective Date remain true, accurate and complete and have not been amended, supplemented or restated and are and continue to be in full force and effect;

5.4 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not and will not contravene (a) any law or regulation binding on or affecting Borrower, (b) any contractual restriction with a Person binding on Borrower, (c) any order, judgment or decree of any court or other governmental or public body or authority, or subdivision thereof, binding on Borrower, or (d) the organizational documents of Borrower;

5.5 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not require any order, consent, approval, license, authorization or validation of, or filing, recording or registration with, or exemption by any governmental or public body or authority, or subdivision thereof, binding on Borrower, except as already has been obtained or made; and

5.6 This Amendment has been duly executed and delivered by Borrower and is the binding obligation of Borrower, enforceable against Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

6. Integration. This Amendment and the Loan Documents represent the entire agreement about this subject matter and supersede prior negotiations or agreements. All prior agreements, understandings, representations, warranties, and negotiations between the parties about the subject matter of the Loan Documents merge into this Amendment and the Loan Documents.

7. Prior Agreement. The Loan Documents are hereby ratified and reaffirmed and shall remain in full force and effect. This Amendment is not a novation and the terms and conditions of this Amendment shall be in addition to and supplemental to all terms and conditions set forth in the Loan Documents. In the event of any conflict or inconsistency between this Amendment and the terms of such documents, the terms of this Amendment shall be controlling, but such document shall not otherwise be affected or the rights therein impaired. The amendment set forth in Section 2 above, is effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term of condition of any Loan Document, or (b) otherwise prejudice any right or remedy which Lenders or Collateral Agent may now have or may have in the future under or in connection with any Loan Document.

8. Counterparts. This Amendment may be executed in any number of counterparts and all of such counterparts taken together shall be deemed to constitute one and the same instrument.

9. Effectiveness. This Amendment shall be deemed effective (a) upon the due execution and delivery to Collateral Agent of this Amendment by each party hereto; (b) delivery to Collateral Agent of corporate resolutions authorizing the Amendment and, duly executed by Cydex; (c) delivery to Collateral Agent of a Perfection Certificate executed by Cydex; (d) filing by Collateral Agent of a UCC-1 financing statement, naming Cydex as debtor; (e) delivery to Collateral Agent of the original stock certificates held by Ligand Pharmaceuticals Incorporated evidencing its 100% ownership of Cydex with associated stock powers executed in blank; and (f) upon Collateral Agent’s receipt of all Lender Expenses incurred through the date of this Amendment.

10. Governing Law. This Amendment and the rights and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of California without regard for conflicts of laws principles.

Signature page follows.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered as of the date first written above.

BORROWERS

LIGAND PHARMACEUTICALS INCORPORATED

By /S/ JOHN SHARP
Name: John Sharp
Title: VP Finance & CFO

SERAGEN, INC.

By /S/ JOHN SHARP
Name: John Sharp
Title: VP & CFO

METABASIS THERAPEUTICS, INC.

By /S/ JOHN SHARP
Name: John Sharp
Title: VP & CFO

PHARMACOPEIA, LLC

By: Ligand Pharmaceuticals Incorporated, Its Sole and Managing Member

By /S/ JOHN SHARP
Name: John Sharp
Title: VP & CFO

NEUROGEN CORPORATION

By /S/ JOHN SHARP
Name: John Sharp
Title: VP & CFO

ALLERGAN LIGAND RETINOID THERAPEUTICS, INC.

By /S/ JOHN SHARP
Name: John Sharp
Title: VP & CFO

LIGAND JVR, INC.

By	/s/ John Sharp
Name:	John Sharp
Title:	CFO

CYDEX PHARMACEUTICALS, INC.

By	/s/ John Sharp
Name:	John Sharp
Title:	VP & CFO

COLLATERAL AGENT AND LENDER:

OXFORD FINANCE LLC, as Collateral Agent and as a Lender

By	/s/ John G. Henderson
Name:	John G. Henderson
Title:	Vice President & General Counsel

Annex A

All goods, Accounts (including health-care receivables), Equipment, Inventory, contract rights or rights to payment of money, leases, license agreements, franchise agreements, General Intangibles (except as provided below), commercial tort claims, documents, instruments (including any promissory notes), chattel paper (whether tangible or electronic), cash, deposit accounts, all certificates of deposit, fixtures, letters of credit rights (whether or not the letter of credit is evidenced by a writing), securities, and all other investment property, supporting obligations, and financial assets, whether now owned or hereafter acquired, wherever located; and

All Borrower's Books relating to the foregoing, and any and all claims, rights and interests in any of the above and all substitutions for, additions, attachments, accessories, accessions and improvements to and replacements, products, proceeds and insurance proceeds of any or all of the foregoing.

Notwithstanding the foregoing, the Collateral does not include any of the following, whether now owned or hereafter acquired except to the extent that it is necessary under applicable law to have a security interest in any of the following in order to have a perfected lien and security interest in and to the "IP Proceeds" defined below: any copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work, whether published or unpublished; any patents, patent applications and like protections, including improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same; trademarks, trade names, service marks, mask works, rights of use of any name or domain names and, to the extent permitted under applicable law, any applications therefor, whether registered or not; and the goodwill of the business of Borrower connected with and symbolized by such trademarks and service marks, know-how, operating manuals, trade secret rights, clinical and non-clinical data, rights to unpatented inventions; provided, however, the Collateral shall include all Accounts, license and royalty fees and other revenues, proceeds, or income arising out of or relating to any of the foregoing and any claims for damage by way of any past, present, or future infringement of any of the foregoing (collectively, the "IP Proceeds").

Pursuant to the terms of a certain negative pledge arrangement with Lender, Borrower has agreed not to encumber any of its copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work, whether published or unpublished, any patents, patent applications and like protections, including improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same, trademarks, service marks and, to the extent permitted under applicable law, any applications therefor, whether registered or not, and the goodwill of the business of Borrower connected with and symbolized thereby, know-how, operating manuals, trade secret rights, rights to unpatented inventions, and any claims for damage by way of any past, present, or future infringement of any of the foregoing, without Lender's prior written consent. For avoidance of doubt: the foregoing sentence is subject to certain exceptions set forth in such negative pledge arrangement with Lender, including without limitation the granting of non-exclusive licenses (or exclusive field-of-use licenses) for the use of the Intellectual Property in the ordinary course of business in connection with joint ventures and corporate collaborations to the extent permitted, and subject to the terms of, such arrangement.

CORPORATE BORROWING certificate

BORROWER: CYDEX PHARMACEUTICALS, INC. **DATE:** October __, 2011
COLLATERAL AGENT: OXFORD FINANCE LLC

I hereby certify as follows, as of the date set forth above:

1. I am the Secretary, Assistant Secretary or other officer of the Borrower. My title is as set forth below.

2. Borrower's legal name is set forth above. Borrower is a corporation existing under the laws of the State of Delaware.

3. Attached hereto are true, correct and complete copies of Borrower's Certificate of Incorporation (including amendments), as filed with the Secretary of State of the state in which Borrower is incorporated as set forth in paragraph 1 above. Except for such attached amendments, such Certificate of Incorporation have not been amended, annulled, rescinded, revoked or supplemented, and remain in full force and effect as of the date hereof.

4. The following resolutions were duly and validly adopted by Borrower's Board of Directors at a duly held meeting of such directors (or pursuant to a unanimous written consent or other authorized corporate action). Such resolutions are in full force and effect as of the date hereof and have not been in any way modified, repealed, rescinded, amended or revoked, and Bank may rely on them until Bank receives written notice of revocation from Borrower.

RESOLVED, that **any one** of the following officers or employees of Borrower, whose names, titles and signatures are below, may act on behalf of Borrower:

Name	Title	Signature	Authorized to Add or Remove Signatories
______________________	______________________	______________________	☐
______________________	______________________	______________________	☐
______________________	______________________	______________________	☐
______________________	______________________	______________________	☐

RESOLVED FURTHER, that **any one** of the persons designated above with a checked box beside his or her name may, from time to time, add or remove any individuals to and from the above list of persons authorized to act on behalf of Borrower.

RESOLVED FURTHER, that such individuals may, on behalf of Borrower:

Borrow Money. Borrow money from Oxford Finance LLC ("Lender").

Execute Loan Documents. Execute any loan documents Bank requires.

Grant Security. Grant Lender a security interest in any of Borrower's assets.

Further Acts. Designate other individuals to request advances, pay fees and costs and execute other documents or agreements they believe to be necessary to effectuate such resolutions.

RESOLVED FURTHER, that all acts authorized by the above resolutions and any prior acts relating thereto are ratified.

5. The persons listed above are Borrower's officers or employees with their titles and signatures shown next to their names.

By: ______________________________
Name: ______________________________
Title: ______________________________

*** *If the Secretary, Assistant Secretary or other certifying officer executing above is designated by the resolutions set forth in paragraph 4 as one of the authorized signing officers, this Certificate must also be signed by a second authorized officer or director of Borrower.*

I, the ________________ of Borrower, hereby certify as to paragraphs 1 through 5 above, as of the date set forth above.
[print title]

By: ______________________________
Name: ______________________________
Title: ______________________________

Exhibit 10.131

CERTAIN MATERIAL (INDICATED BY AN ASTERISK) HAS BEEN OMITTED FROM THIS DOCUMENT PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT. THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

LICENSE AGREEMENT

BETWEEN

CYDEX PHARMACEUTICALS, INC.

AND

ELI LILLY AND COMPANY

DATED: December 16, 2011

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LICENSE AGREEMENT

THIS LICENSE AGREEMENT (this "**Agreement**") is made this 16th day of December, 2011 (the "**Effective Date**") between:

CYDEX PHARMACEUTICALS, INC., a Delaware corporation with offices at 10513 W. 84th Terrace, Lenexa, Kansas 66214 ("**CyDex**"); and

ELI LILLY AND COMPANY, an Indiana corporation, with offices at Lilly Corporate Center Indianapolis, Indiana 46285 USA ("**Company**").

RECITALS

WHEREAS, CyDex, a wholly-owned subsidiary of **LIGAND PHARMACEUTICALS INC.**, is engaged in the business of developing and commercializing novel drug delivery technologies designed to enhance the solubility and effectiveness of existing and development-stage drugs, including without limitation Captisol®, a patented drug formulation system designed to enhance the solubility and stability of drugs;

WHEREAS, Company desires to obtain a license to use the Captisol® patented drug formulation system in connection with its development and commercialization of one or more Compounds (defined below) and CyDex is willing to grant such license to Company under the terms and conditions set forth herein; and

WHEREAS, CyDex desires to sell Captisol® to Company, and Company desires to purchase Captisol® from CyDex, in accordance with the terms and conditions of that certain Supply Agreement between the parties of even date herewith (the "**Supply Agreement**");

NOW, THEREFORE, in consideration of the following mutual promises and other good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties, intending to be legally bound, agree as follows:

1. DEFINITIONS.

For the purposes of this Agreement, the following terms shall have the meanings as defined below:

"**Affiliate**" means, with respect to any party, any entity controlling, controlled by, or under common control with such party, during and for such time as such control exists. For these purposes, "control" shall refer to the ownership, directly or indirectly, of at **[***]** of the voting securities or other ownership interest of the relevant entity.

"**Adverse Event**" means any undesirable medical occurrence in a patient or clinical investigation subject administered the Licensed Product and which does not necessarily have a causal relationship with the Licensed Product.

"**Captisol**" means Captisol®, also known scientifically as **[***]**.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

"**Captisol Data Package**" means (i) all toxicology/safety and other relevant scientific safety data owned, licensed or developed by CyDex and its Affiliates; and (ii) all toxicology/safety and other relevant scientific data owned, licensed or developed by the licensees or sublicensees of CyDex or its Affiliates or other third parties (to the extent permitted in the applicable license or other agreements between CyDex and/or its Affiliates and such licensees, sublicensees or other third parties), in each case on Captisol alone (and not in conjunction with a product formulation).

[***].

"**Claim**" has the meaning specified in **Section 10.1**.

"**Commercial Launch Date**" means, in any particular country, the **[***]**.

"**Compound**" means, with respect to each Licensed Product, the active pharmaceutical ingredient for such Licensed Product approved by CyDex in accordance with **Section 2.5,** owned by or exclusively licensed to Company and developed and manufactured by or on behalf of Company.

"**Confidential Information**" has the meaning specified in **Section 8.1**.

"**Disclosing Party**" has the meaning specified in **Section 8.1** hereof.

"**DMF**" means a **[***]**, as filed as of the Effective Date, or as hereafter updated from time to time during the Term, by CyDex with the FDA.

"**FDA**" means the United States Food and Drug Administration, or any successor thereto.

"**Field**" means, with respect to each Licensed Product, the specified field of use for such Licensed Product approved by CyDex in accordance with **Section 2.5**.

"**Generic Captisol**" means a GMP manufactured **[***]**.

"**GMP**" means material that (a) has been manufactured under conditions of current good manufacturing practices for bulk excipients as set forth in U.S. Pharmacopoeia <1078> as of the Effective Date or any successor thereto.

"**IND**" means an Investigational New Drug application, as defined in the United States Federal Food, Drug and Cosmetic Act and the regulations promulgated thereunder, or similar application filed with an equivalent regulatory body in another country.

"**Indemnitee**" has the meaning specified in **Section 10.4**.

"**Indemnitor**" has the meaning specified in **Section 10.4**.

"**Licensed Patents**" means all patents and patent applications in the Territory which cover Captisol and which now or at any time during the Term are owned by or licensed to CyDex or any CyDex Affiliate with the right to sublicense, including any and all extensions, renewals, continuations, substitutions, continuations-in-part, divisions, patents-of-addition, reissues, reexaminations and/or supplementary protection certificates to any such patents. Set forth in ***Exhibit A*** attached hereto is a list of the Licensed Patents as of the Effective Date. Such ***Exhibit A*** shall be updated by CyDex at least annually during the Term.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

“**Licensed Product**” means a Compound combined with or formulated using Captisol for ultimate use **[***]** approved by CyDex in accordance with **Section 2.5**. For clarity, a Licensed Product **[***]**.

“**Losses**” has the meaning set forth in **Section 10.1**.

“**Marketing Approval**” means final approval of an NDA by the FDA, or final approval of a comparable document filed with an equivalent health regulatory authority in any other country or in the European Union (using the centralized process or mutual recognition), including all required marketing, pricing or reimbursement approvals.

“**NDA**” means a New Drug Application, as defined in the United States Federal Food, Drug and Cosmetic Act and the regulations promulgated thereunder, or similar application filed with an equivalent regulatory body in another country.

[***]

[***]

[***]

[***]

[***]

[***]

[***]

[***]

[***]

“**Notice of Default**” has the meaning specified in **Section 13.2**.

“**Notice of Termination**” has the meaning specified in **Section 13.2**.

[***]

“**Quality Agreement**” means the document developed, approved, and updated between CyDex and Company that sets forth the quality expectations, responsibilities, rights (including, as applicable and agreed upon, audit requirements) and requirements relating to the manufacture and supply of Captisol. Such agreement may be amended from time to time by written agreement between the Parties.

“**Receiving Party**” has the meaning specified in **Section 8.1**.

“**Safety Agreement**” has the meaning specified in **Section 7.4**.

“**SEC**” has the meaning specified in **Section 8.3**.

“**Study**” has the meaning specified in **Section 6.3**.

“**Sublicensees**” has the meaning specified in **Section 2.3**.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

“**Term**” has the meaning specified in **Section 13.1**.

“**Territory**” means the entire world.

“**Valid Claim**” means a claim which, but for the license granted hereunder, would be infringed by Company’s use, manufacture or sale of a Licensed Product, and which is covered by an issued and unexpired patent included within the Licensed Patents which has not been held invalid or unenforceable by a decision of a court or governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and which has not been disclaimed, denied, or admitted to be invalid, canceled, or unenforceable by the owner through re-issue, re-examination or disclaimer, opposition procedure, nullity suit, or otherwise or is not enforceable by virtue of applicable law in the Territory.

2. GRANT OF RIGHTS.

(a) License Grants from CyDex to Company.

(1) Licensed Patents. Subject to the terms and conditions of this Agreement, including but not limited to payment of the amounts set forth in **Section 4.1** below, CyDex hereby grants to Company an exclusive, nontransferable (except with respect to the assignment provision in **Section 14.15**) license during the Term under the Licensed Patents, solely to make, use, sell, offer for sale and import the Licensed Product in the Territory in the Field. Notwithstanding the foregoing, to the extent that any Licensed Patents are licensed to CyDex or its Affiliates by a third party on a non-exclusive basis, the license granted to Company in the foregoing sentence shall be exclusive as to CyDex and non-exclusive as to any third party. For clarity, as CyDex is unable to grant Company any rights that it does not have, in the event that CyDex obtains a non-exclusive license from a third party for intellectual property necessary for Company to perform its obligations hereunder, then CyDex shall pass on such rights to Company hereunder via a license that grants rights that are non-exclusive with respect to third parties but that is exclusive with respect to CyDex. Company may not make, use, sell, offer for sale, or import the Licensed Product for any other purposes than those granted to it in this Agreement. Company may sublicense the Licensed Patents, as expressly set forth in **Sections 2.3** and **2.4** below.

(2) Captisol Data Package. Subject to the terms and conditions of this Agreement, including but not limited to payment of the amounts set forth in **Section 4.1** below, CyDex hereby grants to Company a non-exclusive, nontransferable (except with respect to the assignment provision in **Section 14.14**) license during the Term under CyDex’s right in and to the Captisol Data Package, solely to make, use, sell, offer for sale and import the Licensed Product in the Territory in the Field. Company may not sublicense its rights to the Captisol Data Package, except as expressly set forth in **Sections 2.3** and **2.4** below.

(3) Scope of Licenses. Without limiting the generality of the foregoing, CyDex grants no rights to Company to manufacture, import, sell or offer for sale bulk Captisol; provided, however, that Company may provide Captisol to *bona fide* collaborators in order to help Company to make, use, sell, offer for sale or import the Licensed Product in the Territory in the Field. Licensee acknowledges that not all rights of CyDex related to Captisol are included within the rights licensed hereunder, given that CyDex shall supply Company’s requirements of Captisol for the Licensed Product. CyDex shall not be liable to Company for violation of Company’s exclusive rights hereunder by parties which are not Affiliates or licensees of CyDex **[***]**. Company acknowledges and agrees that (i) CyDex shall not be required to obtain or maintain patent rights in the Territory for the Licensed Patents, (ii) CyDex shall not be restricted in making sales of Captisol or, except as provided herein for the Licensed Product, licensing rights to other parties, and (iii) CyDex does not warrant or indemnify Licensee or its Affiliates and Sublicensees against the Licensed Product infringing third party rights.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

(b) Grant of License from Company to CyDex. Company hereby grants to CyDex a nonexclusive, transferable, perpetual, worldwide and royalty-free license, with the right to grant sublicenses (through multiple tiers of sublicensees), under Company's and its Affiliates' and Sublicensees' rights in and to Captisol Improvements to develop, make, have made, use, market, distribute, import, sell and offer for sale Captisol, any Captisol Improvement and products formulated with Captisol or any Captisol Improvement (other than the Licensed Product in the Field). If during the Term any of (a) Company, (b) Affiliates to whom Company has provided rights under the licenses granted to Company by CyDex pursuant to **Section 2.1**, or (c) Sublicensees pursuant to the practice of their respective sublicenses from Company under **Section 2.3**, file any patent application claiming Captisol anywhere in the world, CyDex shall be deemed automatically to have a nonexclusive, transferable, perpetual, worldwide and royalty-free license, with the right to grant sublicenses (through multiple tiers of sublicensees), under the claims relating specifically to Captisol to make, have made, use, market, distribute, import, sell, and offer for sale Captisol and all products formulated with Captisol (other than the Licensed Product in the Field during the Term). Company shall provide prompt notice of any Captisol Improvement.

(c) Sublicensing. Company shall have the right to grant sublicenses to its Affiliates and licensees of the Licensed Product (collectively "**Sublicensees**") under the licenses granted to Company pursuant to **Section 2.1**; **[***]**.

(d) Contracting. Company may manufacture the Licensed Product (but not the bulk Captisol) or contract the manufacture of the Licensed Product (but not the manufacture of bulk Captisol) with Company qualified third party manufacturers. To the extent necessary to engage a third party manufacturer for the Licensed Product, Company shall be permitted under this Agreement to grant any such third party manufacturer a sublicense under the licenses granted to Company pursuant to **Section 2.1** solely for such purposes; **[***]**.

2.5 CyDex Approval Rights. Company acknowledges that (i) CyDex has granted and in the future shall have the right to grant exclusive and non-exclusive licenses for the use of Captisol for various products in various fields for various territories, and (ii) as a result, the written approval of CyDex shall be required for the Compound, formulation and Field of each Licensed Product. Such written approval by CyDex shall be substantially in the form of ***Exhibit B*** hereto, and shall include specific approval rights for CyDex, which CyDex may provide or withhold in its reasonable discretion, for the Compound, formulation or Field for any proposed Licensed Product. Without limiting the generality of the foregoing, for clarity it shall be deemed reasonable for CyDex to withhold its consent if: (w) CyDex has conflicting or potentially conflicting contractual obligations existing at the time of Company's request, including without limitation if CyDex is a party to a research agreement or limited clinical use agreement or similar contract with a third party; (x) CyDex is then in substantive negotiations with a third party to grant such rights or conflicting rights and/or (y) CyDex or an Affiliate is actively pursuing its own development program in relation to the applicable composition(s) of matter. For the avoidance of doubt, CyDex hereby approves the Compound, formulation and Field for the Licensed Products specified in ***Exhibit C*** hereto. Further, for the avoidance of doubt, Company shall not be prohibited from developing products at its discretion as a result of this Section 2.5, provided that such products do not include Captisol supplied by CyDex and do not violate the valid intellectual property rights of CyDex.

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3. MANUFACTURE AND SUPPLY OF CAPTISOL

The provisions of the Supply Agreement and any related Quality Agreement shall govern the manufacture and supply of Captisol for use in the formulation of the Licensed Product. Company acknowledges and agrees that, pursuant to the Supply Agreement, CyDex is the exclusive manufacturer of Captisol for Company and its Affiliates and Sublicensees and nothing set forth herein shall be deemed to grant Company or its Affiliates or Sublicensees the right to manufacture Captisol nor the right to contract the manufacture of Captisol to a third party **[***]**.

CyDex shall have the right to change the Specifications from time to time during the Term; **[***]**. CyDex shall provide Company with **[***]** prior written notice of any proposed change to the Specifications and provide Company with an opportunity to evaluate whether **[***]**.

[***].

4. COMPENSATION.

(a) Payments and Royalties for Licenses.

(1) One-Time Fee. Company shall pay to CyDex a non-refundable, one-time fee of One Million Dollars (US $1,000,000) in partial consideration of the rights granted Company under this Agreement, which amount shall be due and payable in full on December 31, 2011, with commercially reasonable efforts to make such payment prior to December 31, 2011.

(b) [***]

[***]	**[***]**
[***]	**[***]**
[***]	**[***]**
[***]	**[***]**

[***]

[***]

[***]	**[***]**
[***]	**[***]**
[***]	**[***]**
[***]	**[***]**
[***]	**[***]**

[***].

[***]

(c) Late Payments. Unpaid balances shall accrue interest, from due date until paid, at a rate equal to the prime rate, **[***]**.

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5. RECORDS; REPORTS; AUDIT.

(a) Records. Company shall, and shall require its Affiliates and Sublicensees to, maintain complete and accurate records relating to Net Sales of Licensed Product in accordance with its standard procedures.

(b) Reports.

(1) Quarterly Financial Reports. Within **[***]** following the conclusion of **[***]** during the Term, Company shall provide CyDex with a written report with respect to **[***]** that sets forth sales of the Licensed Product in the Territory during such **[***]**. Such report shall include Net Sales and royalties due for each Licensed Product.

(2) Annual Milestone Reports. Annually, by November 1st of each calendar year during the Term, Company shall provide CyDex with written reports that: describe in reasonable detail Company's progress made toward achievement of the milestones specified in **Section 4.1(b)** above during **[***]**; and set forth such other information regarding Captisol as mutually agreed upon by the parties. Company shall also provide quarterly updates regarding any significant changes to the expected completion of any such milestones outlined in the annual report or any change that may materially affect the Supply Agreement or orders placed thereunder.

(c) Audit. Upon the written request of CyDex, Company will permit Company's independent Third Party certified public accountant to have access during normal business hours to such of the records of Company as may be reasonably necessary to verify the royalty reports under Section 5.2 **[***]**.

In the event such accountant concludes that additional payments of any kind as required by this Agreement were owed to CyDex during such period, the additional amounts will be paid within **[***]** of the date CyDex delivers to Company such accountant's written report so concluding. The fees charged by such accountant will be paid by CyDex, unless the audit discloses that the amounts payable by Company **[***]**. In the event such accountant concludes that there was an overpayment by Company to CyDex during such period, at Company's option, **[***]** of the date of the written report.

The independent certified public accountants shall keep confidential any information obtained during such inspection and shall report to the CyDex and Company only the amounts of Net Sales and royalties due and payable. The parties agree that all information subject to review under this Section 5.3 or under any sublicense agreement is confidential and that it will cause its accountant to retain all such information in confidence.

6. DEVELOPMENT AND COMMERCIALIZATION BY COMPANY.

(a) Diligence. Company agrees that, during the Term, it will use, and shall require its Affiliates and Sublicensees to use, commercially reasonable efforts to obtain Marketing Approval in the major markets in the Territory and to market, promote, and sell Licensed Product thereafter in each country in which Marketing Approval is obtained. For clarity, Company will be under no obligation to market a Product if it determines, in its sole and reasonable business judgment, that such an effort is not commercially viable for Company.

(b) Costs and Expenses. Company shall be solely responsible for all costs and expenses related to its development and commercialization of the Licensed Product, including without limitation costs and expenses associated with all preclinical activities and clinical trials, and all regulatory filings and proceedings relating to the Licensed Product.

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(c) In Vivo Studies. If Company wishes to conduct any in vivo study (preclinical or clinical, in animals or in humans, each a '**Study**") of the Licensed Product utilizing Captisol, the following provisions shall apply:

(a) Dosing. Company shall not exceed the maximum allowable dosing levels of Captisol specified in CyDex's then-current clinical dosing matrix (which shall be provided by CyDex to Company from time to time) without the written consent of CyDex.

(b) Compliance with Laws. Company represents and warrants that each Study will be performed in accordance with all applicable laws, regulations and requirements. Company will provide or cause to be provided all appropriate warnings to participants enrolled in each Study and obtain or cause to be obtained appropriate documentation of informed consent from all participants in each such Study.

(c) Adverse Events. Company agrees to immediately inform CyDex if any adverse effects are observed and ascribed to Captisol in any Study in accordance with **Section 7.3** hereof. To accurately track adverse events and preserve the validity of each Study, Company shall only use Captisol supplied by CyDex for each such Study conducted under the scope of this Agreement.

(d) Reporting and Study Data. Within **[***]** after the completion of the relevant Study, Company shall provide to CyDex a summary of the data and results of each Study that pertain solely to Captisol, and Company hereby grants to CyDex a non-exclusive, royalty-free license (with the right to sublicense) to use and disclose such data for regulatory purposes, including without limitation to update the DMF for Captisol.

(d) Right of Reference. Company shall have the right to reference the DMF solely in connection Company's regulatory filings submitted in connection with obtaining Marketing Approval for the Licensed Product.

(e) Access to Company's Data. CyDex shall have the right to reference and utilize all toxicology/safety and other relevant scientific data developed on Captisol alone (and not in conjunction with a product formulation) by Company, its Sublicensees or Affiliates in connection with CyDex's development and commercialization of Captisol or compounds, at no cost to CyDex. Upon request by CyDex, Company shall either provide CyDex with a copy of all such data or shall make such data accessible to CyDex at such times and locations mutually agreed upon by the parties.

7. REGULATORY MATTERS.

(a) Captisol Information Submitted for Regulatory Review. Except as otherwise set forth herein, Company shall be solely responsible for all communications with regulatory agencies in connection with the Licensed Product.

(b) Material Safety. CyDex shall provide Company, in writing, from time to time, with (a) relevant information currently known to it regarding handling precautions, toxicity and hazards with respect to Captisol, and (b) the then-current material safety data sheet for Captisol. Notwithstanding

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the foregoing or anything in this Agreement to the contrary, Company is solely responsible for (i) use of all documentation provided by CyDex, including without limitation, use in any regulatory submission to the FDA or any other regulatory agency in the Territory, (ii) document control and retention, and (iii) determining the suitability of any documentation provided by CyDex hereunder for use in any regulatory submission.

(c) Adverse Event Reporting. Company shall adhere, and shall require that its Affiliates, Sublicensees, co-marketers and distributors adhere, to all requirements of applicable law and regulations that relate to the reporting and investigation of any adverse event, including without limitation an unfavorable and unintended diagnosis, symptom, sign (including an abnormal laboratory finding), syndrome or disease, whether or not considered Captisol or Licensed Product-related, which occurs or worsens following administration of Captisol or Licensed Product. Company shall provide CyDex with copies of all reports of any such adverse event which is serious (any such adverse event involving Captisol or the Licensed Product that results in death, is life-threatening, requires or prolongs inpatient hospitalization, results in disability, congenital anomaly or is medically important (i.e., may require other medical or surgical intervention to prevent other serious criteria from occurring)) which Company has reason to believe are associated with Captisol within **[***]** following (i) Company's submission of any such report to any regulatory agency, or (ii) receipt from Company's Sublicensee, co-marketer or distributor of any such report to any regulatory agency. Reports from Company shall be delivered to the attention of Chief Scientific Officer, CyDex, with a copy to Chief Executive Officer, CyDex, at the address set forth in **Section 14.6**. The parties shall mutually cooperate with regard to investigation of any such serious adverse event, whether experienced by Company, CyDex or any other Affiliate, Sublicensee, co-marketer or distributor of CyDex or Company.

(d) Safety Agreement. Company and CyDex shall execute a separate related safety agreement (the "Safety Agreement") to this Agreement, for each compound (see Exhibit C), at least **[***]**. The Safety Agreement will provide details related to the management of serious Adverse Events that occur during clinical trials, including safety issues rising from pre-clinical research and other safety and reporting practices and procedures, detailing obligations related to the development and commercialization of the Licensed Product in compliance with all applicable laws, rules, and regulations.

8. CONFIDENTIALITY.

(a) Definition. Company and CyDex each recognizes that during the Term, it may be necessary for a party (the "**Disclosing Party**") to provide Confidential Information (as defined herein) to the other party (the "**Receiving Party**") that is highly valuable, the disclosure of which would be highly prejudicial to such party. The disclosure and use of Confidential Information will be governed by the provisions of this **Section 8**. Neither Company nor CyDex shall use the other's Confidential Information except as expressly permitted in this Agreement. For purposes of this Agreement, "**Confidential Information**" means all information disclosed by the Disclosing Party to the Receiving Party and designated in writing by the Disclosing Party as "Confidential" (or equivalent), and all material disclosed orally which is declared to be confidential by the Disclosing Party, including but not limited to product specifications, data, know-how, formulations, product concepts, sample materials, business and technical information, financial data, batch records, trade secrets, processes, techniques, algorithms, programs, designs, drawings, and any other information related to a party's present or future products, sales, suppliers, customers, employees, investors or business. Without limiting the generality of the foregoing, CyDex's Confidential Information includes all materials provided as part of the Captisol Data Package.

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(b) Obligation. CyDex and Company agree that they will disclose the other's Confidential Information to its own officers, employees, consultants and agents only if and to the extent necessary to carry out their respective responsibilities under this Agreement or in accordance with the exercise of their rights under this Agreement, and such disclosure shall be limited to the maximum extent possible consistent with such responsibilities and rights. Neither party shall disclose Confidential Information of the other to any third party without the other's prior written consent, and any such disclosure to a third party shall be pursuant to the terms of a non-disclosure agreement no less restrictive than this **Section 8**. Each party shall take such action to preserve the confidentiality of each other's Confidential Information as it would customarily take to preserve the confidentiality of its own Confidential Information (but in no event less than a reasonable standard of care). Each party, upon the other's request, will return or destroy (at disclosing party's discretion) all the Confidential Information disclosed to the other party pursuant to this Agreement, including all copies and extracts of documents, within **[***]** of the request, and in any event, promptly following the expiration or termination of this Agreement.

(c) Exceptions. The use and non-disclosure obligations set forth in this **Section 8** shall not apply to any Confidential Information, or portion thereof, that the Receiving Party can demonstrate:

i. at the time of disclosure is in the public domain;

ii. after disclosure, becomes part of the public domain, by publication or otherwise, through no fault of the Receiving Party;

iii. at the time of disclosure is already in the Receiving Party's possession, and such prior possession can be properly demonstrated by the Receiving Party, with the exception of Confidential Information exchanged between parties prior to the execution of this Agreement;

iv. is made available to the Receiving Party by an independent third party, provided, however, that to the Receiving Party's knowledge, such information was not obtained by said third party, directly or indirectly, from the Disclosing Party hereunder; or

v. is independently developed by an employee of the Receiving Party not having access to the Disclosing Party's information.

In addition, the Receiving Party may disclose information that is required to be disclosed by law, by a valid order of a court or by order or regulation of a governmental agency including but not limited to, regulations of the United States Securities and Exchange Commission (the "**SEC**"), or in the course of litigation, *provided* that in all cases the Receiving Party shall give the other party prompt notice of the pending disclosure and makes a reasonable effort to obtain, or to assist the Disclosing Party in obtaining, a protective order preventing or limiting the disclosure and/or requiring that the Confidential Information so disclosed be used only for the purposes for which the law or regulation required, or for which the order was issued.

(d) Injunction. Each party agrees that should it breach or threaten to breach any provisions of this **Section 8**, the Disclosing Party will suffer irreparable damages and its remedy at law will be inadequate. Upon any breach or threatened breach by the Receiving Party of this **Section 8**, the Disclosing Party shall be entitled to seek injunctive relief in addition to any other remedy which it may have, without need to post any bond or security.

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(e) Third Party Information. Company acknowledges that CyDex's Confidential Information and DMF includes information developed by **[***]** that is confidential to both CyDex and **[***]**. Only to the extent that Confidential information of **[***]** is disclosed to Company hereunder, and only as required by CyDex's pre-existing contractual obligations to Pfizer, then **[***]** is a limited third party beneficiary of only this **Section 8** of this Agreement and may seek remedies pursuant to it, but only in accordance with its terms.

9. REPRESENTATIONS AND WARRANTIES.

(a) Mutual Representations and Warranties. Each party represents and warrants to the other as follows:

(i) it is a corporation duly organized and validly existing under the laws of the state or country of its incorporation;

(ii) it has the complete and unrestricted power and right to enter into this Agreement and to perform its obligations hereunder;

(iii) this Agreement has been duly authorized, executed and delivered by such party and constitutes a legal, valid and binding obligation of such party enforceable against such party in accordance with its terms except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, receivership, moratorium, fraudulent transfer, or other similar laws affecting the rights and remedies of creditors generally and by general principles of equity;

(iv) the execution, delivery and performance of this Agreement by such party do not conflict with any agreement, instrument or understanding, oral or written, to which such party is a party or by which such party may be bound, nor violate any law or regulation of any court, governmental body or administrative or other agency having authority over such party;

(v) all consents, approvals and authorizations from all governmental authorities or other third parties required to be obtained by such party in connection with the execution and delivery of this Agreement have been obtained;

(vi) no person or entity has or will have, as a result of the transactions contemplated by this Agreement, any right, interest or valid claim against or upon such party for any commission, fee or other compensation as a finder or broker because of any act by such party or its agents, or, with respect to Company, because of any act by its Affiliates or Sublicensees; and

(vii) it has not entered into any agreement with any third party that is in conflict with the rights granted to the other party pursuant to this Agreement.

(b) CyDex Representations and Warranties. CyDex hereby represents and warrants to Lilly as follows:

(i) That it has no knowledge of any unsettled past or current, and has not received notice of any threatened, patent, trade secret or other intellectual property dispute with any Third Party that actually or is reasonably likely to have a material adverse effect on ability to carry out its material obligations under this Agreement.

(ii) That it has not executed or granted to any third party or Affiliate, directly or indirectly, or entered into any agreement for, any license or other right under any patent, trade secret or other intellectual property or any license or covenant not to sue respecting such patents, trade secrets or other intellectual property that conflicts with its obligations under this Agreement.

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(iii) That all Captisol has been manufactured and packaged in compliance with all relevant applicable laws and regulations.

[***]

[***]

[***]

[***]

9.3 Disclaimer. THE WARRANTIES SET FORTH IN THIS **SECTION 9** ABOVE ARE PROVIDED IN LIEU OF, AND EACH PARTY HEREBY DISCLAIMS, ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT, CAPTISOL, THE LICENSED PATENTS, THE CAPTISOL DATA PACKAGE, OR THE LICENSED PRODUCT, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS. **EACH PARTY'S** WARRANTIES UNDER THIS AGREEMENT ARE SOLELY FOR THE BENEFIT OF THE OTHER PARTY AND MAY BE ASSERTED ONLY BY THE OTHER PARTY AND NOT BY ANY AFFILIATE, SUBLICENSEE OR ANY CUSTOMER OF THE OTHER PARTY, ITS AFFILIATES OR SUBLICENSEES. EACH PARTY, ITS AFFILIATES AND SUBLICENSEES SHALL BE SOLELY RESPONSIBLE FOR ALL REPRESENTATIONS AND WARRANTIES THAT IT, ITS AFFILIATES OR SUBLICENSEES MAKE TO ANY CUSTOMER OF SUCH PARTY, ITS AFFILIATES OR SUBLICENSEES.

10. INDEMNIFICATION.

(a) By CyDex. CyDex shall defend, indemnify and hold Company and its Affiliates and Sublicensees, and each of their respective directors, officers and employees, harmless from and against any and all losses, damages, liabilities, costs and expenses (including the reasonable costs and expenses of attorneys and other professionals) (collectively "**Losses**") incurred by Company as a result of any claim, demand, action or other proceeding (each, a "**Claim**") by a third party, to the extent such Losses arise out of (i) CyDex's breach of this Agreement, including without limitation any of its representations and warranties set forth herein; (ii) the research, development, manufacture, use, handling, promotion, marketing, distribution, importation, sale or offering for sale of Captisol by CyDex, its Affiliates, distributors or agents (for clarity, such terms shall not include Company in any event); or (iii) interactions and communications by CyDex, its Affiliates, distributors or agents (for clarity, such terms shall not include Company in any event) with governmental authorities, physicians or other third parties relating to Captisol, including the Captisol Data Package.

(b) By Company. Company shall defend, indemnify and hold CyDex and its Affiliates, and each of their respective directors, officers and employees, harmless from and against any and all Losses incurred by CyDex as a result of any Claim by a third party, to the extent such Losses arise out of: (i) Company's breach of this Agreement, including without limitation any of its representations herein; (ii) the research, development, manufacture, use, handling, promotion, marketing, distribution, importation, sale or offering for sale of Licensed Products by Company, its Affiliates, Sublicensees, distributors, agents or other parties (for clarity, such terms shall not include CyDex in any event); or (iii) interactions and communications with governmental authorities, physicians or other third parties relating to Licensed Products.

(c) Expenses. As the parties intend complete indemnification, all costs and expenses of enforcing any provision of this **Section 10** shall also be reimbursed by the Indemnitor.

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(d) Procedure. The party intending to claim indemnification under this **Section 10** (an "**Indemnitee**") shall promptly notify the other party (the "**Indemnitor**") of any Claim in respect of which the Indemnitee intends to claim such indemnification, and the Indemnitor shall assume the defense thereof whether or not such Claim is rightfully brought; *provided, however,* that an Indemnitee shall have the right to retain its own counsel, with the fees and expenses to be paid by the Indemnitee, unless Indemnitor does not assume the defense, in which case the reasonable fees and expenses of counsel retained by the Indemnitee shall be paid by the Indemnitor. The Indemnitee, and its employees and agents, shall cooperate fully with the Indemnitor and its legal representatives in the investigations of any Claim. The Indemnitor shall not be liable for the indemnification of any Claim settled or compromised by the Indemnitee without the written consent of the Indemnitor.

11. LIMITATION OF LIABILITY.

EXCEPT FOR DAMAGES FOR WHICH A PARTY IS RESPONSIBLE PURSUANT TO ITS INDEMNIFICATION OBLIGATIONS SET FORTH IN **SECTION 10** ABOVE, EACH PARTY SPECIFICALLY DISCLAIMS ALL LIABILITY FOR AND SHALL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, EXPENSES, LOST PROFITS, LOST SAVINGS, INTERRUPTIONS OF BUSINESS OR OTHER DAMAGES OF ANY KIND OR CHARACTER WHATSOEVER ARISING OUT OF OR RELATED TO THIS AGREEMENT OR RESULTING FROM THE MANUFACTURE, HANDLING, MARKETING, SALE, DISTRIBUTION OR USE OF LICENSED PRODUCT OR USE OF THE LICENSED PATENTS AND CAPTISOL DATA PACKAGE, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE, EVEN IF SUCH PARTY WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. EACH PARTY SHALL HAVE NO REMEDY, AND EACH PARTY SHALL HAVE NO LIABILITY, OTHER THAN AS EXPRESSLY SET FORTH IN THIS AGREEMENT. **[***]**.

12. MANAGEMENT OF INTELLECTUAL PROPERTY.

(a) Ownership.

(1) Existing Rights. Each party shall maintain its ownership and other rights with respect to intellectual property owned or controlled by such party prior to the Effective Date.

(2) New Rights. Discoveries, inventions, improvements and other technology, whether or not patentable, arising from the use of Captisol and/or any formulations containing Captisol shall be:

[***]

[***]

[***]

Inventorship shall be determined in accordance with US patent law. For clarity, rights **[***]**.

(b) Prosecution and Maintenance.

(1) Existing Rights (Licensed Patents). During the Term CyDex shall maintain, **[***]**.

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(2) New Rights. The parties shall cooperate to take whatever, if any, action they mutually agree upon in writing and in their respective discretion to prosecute patent applications and maintain patents covering rights which are jointly owned in accordance with **Section 12.1(b)(iii)**. Such agreement shall include actions to be taken by each party and the allocation of expenses related to such action. Neither party shall seek patent protection covering such rights without such agreement.

(c) Infringement by Third Parties.

(1) Existing Rights (Licensed Patents). If Company becomes aware that a third party may be infringing a Licensed Patent, it will promptly notify CyDex in writing, providing all information available to Company regarding the potential infringement. CyDex shall take whatever, if any, action it deems appropriate, in its sole discretion, against the alleged infringer. **[***]**.

(2) New Rights. The parties shall cooperate to take whatever, if any, action they mutually agree upon in writing and in their respective discretion against the alleged infringer of rights which are jointly owned in accordance with **Section 12.1(b)(iii)**. Such agreement shall include actions to be taken by each party and the allocation of expenses and recoveries related to such action. Neither party shall take any such action against the alleged infringer without the written consent of the other party.

13. TERM AND TERMINATION.

(a) Term. The term of this Agreement (the "**Term**") shall commence on the Effective Date and shall continue in effect thereafter until the later of (i) expiration of Company's obligation to pay royalties under **Section 4.1(c)**, or (ii) the expiration of the last-to-expire of the Licensed Patents in the Territory, unless terminated earlier as set forth herein.

(b) Termination by Company. Company may terminate this Agreement upon sixty (60) days prior express written notice to CyDex. If the Agreement is terminated by Company, within thirty (30) days after such termination, Company shall pay to CyDex all payments owing at the date of termination.

(c) Termination for Breach. If either party should violate or fail to perform any term or covenant of this Agreement, then the other party may give written notice of such default (a "**Notice of Default**") to such party. If such party should fail to cure such default within sixty (60) days (or thirty (30) days with respect to any payment obligation) of the date of such notice or prior to the natural expiration date of this Agreement, whichever is shorter in duration, the other party shall have the right to terminate this Agreement by a second written notice (a "**Notice of Termination**") to such party. If Notice of Termination is sent to such party, this Agreement shall automatically terminate on the effective date of such notice.

(d) Termination for Bankruptcy. Either party may terminate this Agreement immediately upon written notice to the other party in the event that the other party makes an assignment for the benefit of creditors or has a petition in bankruptcy filed for or against it that is not dismissed within ninety (90) days of such filing.

(e) Effect of Termination. Following the termination by Company under Section 13.2 or by CyDex for Lilly's breach under Section 13.3 and Lilly fails to cure such default within the applicable cure period under Section 13.3, of this Agreement, all rights granted to Company herein shall immediately terminate and each party shall promptly return all relevant records and materials in its

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possession or control containing the other party's Confidential Information with respect to which the former party does not retain rights hereunder; *provided, however,* that each party may retain one archival copy of such records and materials solely to be able to monitor its obligations that survive under this Agreement. In the event of a material breach by CyDex, and CyDex fails to cure such default within the applicable cure period under Section 13.3, Lilly may elect to either (i) terminate this Agreement, or (ii) without limiting any other legal or equitable remedies that Lilly may have, continue this Agreement in full force and effect, but with the milestones and royalties otherwise due hereunder to be reduced by an amount to be mutually agreed upon by the Parties.

(f) Survival. Notwithstanding any other provisions of this Agreement, any liability or obligation of either party to the other for acts or omissions prior to the termination or expiration of this Agreement shall survive the termination or expiration of this Agreement. Such termination or expiration shall not relieve either party from obligations that are expressly indicated to survive termination or expiration of this Agreement, nor shall any termination or expiration of this Agreement relieve Company of its obligation to pay CyDex (i) royalties for all Licensed Product sold by Company, its Affiliates or Sublicensees prior to the effective date of such expiration or termination, or (ii) sums due in respect of Captisol shipped prior to termination or expiration of this Agreement. Sections 2.2 (Grant of License from Company to CyDex), 4.1 (Payments and Royalties for Licenses), 4.3 (Currency), 4.2 (Taxes), 4.3 (Late Payments), 5 (Records; Reports; Audits), 6.3(f) (Reporting and Study Data), 6.5 (Access to Company's Data), 7.3 (Adverse Event Reporting), 8 (Confidentiality), 9.3 (Disclaimer), 10 (Indemnification), 11 (Limitation of Liability), 12 (Management of Intellectual Property), 13.5 (Effect of Termination), 13.6 (Survival), and 14 (General Provisions) shall survive termination or expiration of this Agreement.

14. GENERAL PROVISIONS.

(a) Relationship of Parties. Each of the parties hereto is an independent contractor and nothing in this Agreement is intended or shall be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the parties. No party shall incur any debts or make any commitments for the other.

(b) Compliance with Law. Company agrees that use of the Licensed Patents, Captisol and Captisol Data Package by it and its Affiliates and Sublicensees, and the manufacture, handling, marketing, sale, distribution and use of Licensed Product, will comply with all applicable international, federal, state and local laws, rules and regulations, including, but not limited to, import/export restrictions, laws, rules and regulations governing use and patent, copyright and trade secret protection. CyDex agrees that its manufacture, handling, marketing, sale, distribution and use of Captisol hereunder will comply with all applicable international, federal, state and local laws, rules and regulations, including, but not limited to, import/export restrictions, laws, rules and regulations governing use and patent, copyright and trade secret protection.

(c) Arbitration.

(1) Procedure. Any and all disputes or controversies arising out of or relating to this Agreement shall be exclusively and finally resolved by binding arbitration in accordance with the commercial arbitration rules of the American Arbitration Association then in effect, in Chicago, Illinois. The arbitration shall be conducted by an arbitrator reasonably knowledgeable about the pharmaceutical industry and acceptable to CyDex and Company. If CyDex and Company cannot agree on a single arbitrator within **[***]** after a demand for arbitration has been made, CyDex shall appoint an arbitrator, Company shall appoint an arbitrator, the **[***]** arbitrators shall appoint a **[***]** arbitrator, and the **[***]** arbitrators shall hear and decide the issue in controversy. If either party fails to

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appoint an arbitrator within **[***]** after service of the demand for arbitration, then the arbitrator appointed by the other party shall arbitrate any controversy in accordance with this **Section 14.3(a)**. Except as to the selection of arbitrators, the arbitration proceedings shall be conducted promptly and in accordance with the rules of the American Arbitration Association then in effect. The expenses of any arbitration, including the reasonable attorney fees of the prevailing party, shall be borne by the party deemed to be at fault or on a pro-rata basis should the arbitration conclude in a finding of mutual fault.

(2) Confidentiality of Proceedings. All arbitration proceedings hereunder shall be confidential and the arbitrator(s) shall issue appropriate protective orders to safeguard each party's Confidential Information. Except as required by law, no party shall make (or instruct the arbitrator(s) to make) any public announcement with respect to the proceedings or decision of the arbitrator(s) without prior written consent of the other party.

(3) Interim Equitable Relief. Each party shall, in addition to all other remedies accorded by law and permitted by this Agreement, be entitled to equitable relief (including but not limited to interim injunctive relief) in any court having jurisdiction to protect its interests. Neither party shall commence any court proceeding or action against the other to resolve any dispute, except (i) to enforce an arbitral award rendered pursuant to this **Section 14.3**, or (ii) for such interim injunctive relief.

(4) Binding Effect. The provisions of this **Section 14.3** shall survive any expiration or termination of this Agreement, and shall be severable and binding on the parties hereto, notwithstanding that any other provision of this Agreement may be held or declared to be invalid, illegal or unenforceable.

(d) Costs and Expenses. Except as otherwise expressly provided in this Agreement, each party shall bear all costs and expenses associated with the performance of such party's obligations under this Agreement.

(e) Force Majeure. Neither party shall be liable for failure to perform, or delay in the performance of, its obligations under this Agreement (other than payment obligations) when such failure or delay is caused by an event of *force majeure*. For purposes of this Agreement, an event of *force majeure* means any event or circumstance beyond the reasonable control of the affected party, including but not limited to, war, insurrection, riot, fire, flood or other unusual weather condition, explosion, act of God, peril of the sea, strike, lockout or other industrial disturbance, sabotage, accident, embargo, breakage of machinery or apparatus, injunction, act of governmental authority, compliance with governmental order on national defense requirements, or inability to obtain fuel, power, raw materials, labor or transportation facilities. If, due to any event of *force majeure*, either party shall be unable to fulfill its obligations under this Agreement (other than payment obligations), the affected party shall immediately notify the other party of such inability and of the period during which such inability is expected to continue.

(f) Notices. Any notice, request, or communication under this Agreement shall be effective only if it is in writing and personally delivered; sent by certified mail, postage pre-paid; or by nationally recognized overnight courier with signature required, addressed to the parties at the addresses stated below or such other persons and/or addresses as shall be furnished in writing by any party in accordance with this **Section 14.6**. Unless otherwise provided, all notices shall be sent:

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

If to CyDex, to:

CyDex Pharmaceuticals, Inc.
c/o Ligand Pharmaceuticals Inc.
11085 North Torrey Pines Road, Suite 300
La Jolla, CA 92037 USA
Attention: President

With a copy to:

Ligand Pharmaceuticals Incorporated
11085 North Torrey Pines Road, Suite 300
La Jolla, CA 92037 USA
Attention: General Counsel

If to Company, to:

Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285 USA
Attention: General Counsel

If sent by overnight courier, the **[***]** after the date of deposit with such courier shall be deemed to be the date on which such notice, request or communication was given. If sent by certified mail, the **[***]** after the date of mailing shall be deemed the date on which such notice, request or communication was given.

(g) Use of Name. Neither party shall have any right, express or implied, to use in any manner the name or other designation of the other party or any other trade name or trademark of the other party for any purpose, except as may be required by applicable law or regulation or with the written approval of the other party, such approval not to be unreasonably withheld.

(h) Public Announcements. No party shall use the name, trademark, trade name or logo of the other party, its Affiliates or their respective employee(s) in any publicity, promotion, news release or public disclosure relating to this Agreement or its subject matter, without the prior express written permission of the other party, such permission not to be unreasonably withheld, except as may be required by law or as permitted by **Section 14.7**. The parties agree that a party may disclose this Agreement and its terms, and material developments or material information generated under this Agreement, in (i) securities filings with the Securities Exchange Commission ("**SEC**") (or equivalent foreign agency), or taxing authorities, to the extent required by law after complying with the procedure set forth in this **Section 14.8**, or (ii) under conditions of confidentiality in connection with investment and similar corporate transactions. In the event of a required public announcement, the party making such announcement shall provide the other party with a copy of the proposed text prior to such announcement sufficiently in advance of the scheduled release of such announcement to afford such other party a reasonable opportunity to review and comment upon the proposed text and the timing of such disclosure.

(i) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware (without giving effect to any conflicts of law principles that require the application of the law of a different state).

(j) Entire Agreement; Amendment. This Agreement and all Exhibits attached hereto or thereto contain the entire agreement of the parties relating to the subject matter hereof and supersede any and all prior agreements, written or oral, between CyDex and Company relating to the subject matter of this Agreement. This Agreement may not be amended unless agreed to in writing by both parties.

(k) Binding Effect. This Agreement shall be binding upon, and the rights and obligations hereof shall apply to the CyDex and Company and any successor(s) and permitted assigns. The name of a party appearing herein shall be deemed to include the names of such party's successors and permitted assigns to the extent necessary to carry out the intent of this Agreement.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

(l) Waiver. The rights of either party under this Agreement may be exercised from time to time, singularly or in combination, and the exercise of one or more such rights shall not be deemed to be a waiver of any one or more of the others. No waiver of any breach of a term, provision or condition of this Agreement shall be deemed to have been made by either party unless such waiver is addressed in writing and signed by an authorized representative of that party. The failure of either party to insist upon the strict performance of any of the terms, provisions or conditions of this Agreement, or to exercise any option contained in this Agreement, shall not be construed as a waiver or relinquishment for the future of any such term, provision, condition or option or the waiver or relinquishment of any other term, provision, condition or option.

(m) Severability. If a final judicial determination is made that any provision of this Agreement is unenforceable, this Agreement shall be rendered void only to the extent that such judicial determination finds such provisions unenforceable, and such unenforceable provisions shall be automatically reconstituted and become a part of this Agreement, effective as of the date first written above, to the maximum extent they are lawfully enforceable.

(n) Assignment. Neither party may assign its rights or delegate its obligations under this Agreement, in whole or in part, by operation of law or otherwise, to any third party without the prior written consent of the other party, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, either party may assign its rights and delegate its obligations under this Agreement to an Affiliate or to a third party successor, whether by way of merger, sale of all or substantially all of its assets, sale of stock or otherwise, without prior written consent. As a condition to any permitted assignment hereunder, the assignor must guarantee the performance of any assignee to the terms and obligations of this Agreement. Any assignment not in accordance with this **Section 14.14** shall be void.

14.16 Third Party Beneficiaries. Except for the rights of Indemnitees pursuant to **Section 10** hereof, and subject to **[***]** rights under **Section 8.5** hereof, the terms and provisions of this Agreement are intended solely for the benefit of each party hereto and their respective successors or permitted assigns and it is not the intention of the parties to confer third-party beneficiary rights upon any other person, including without limitation Sublicensees. The enforcement of any obligation of CyDex under this Agreement shall only be pursued by Company or such Indemnitees, and not Sublicensees.

14.17 Headings. The descriptive headings of this Agreement are for convenience only, and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement.

14.18 Counterparts. This Agreement may be executed in two counterparts, each of which shall constitute an original document, but both of which shall constitute one and the same instrument.

[***]

[Remainder of this page left blank intentionally]

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

CYDEX PHARMACEUTICALS, INC.

By: /s/ Charles Berkman

Name: Charles Berkman

Title: VP and Secretary

ELI LILLY AND COMPANY

By: /s/ Newton F. Crenshaw

Name: Newton F. Crenchaw

Title: V.P. Oncology Business Unit

[***]

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EXHIBIT A

LICENSED CAPTISOL PATENTS

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EXHIBIT B

FORM OF CYDEX APPROVAL FOR LICENSED PRODUCT

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EXHIBIT C

APPROVED LICENSE PRODUCTS AS OF THE EFFECTIVE DATE

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CERTAIN MATERIAL (INDICATED BY AN ASTERISK) HAS BEEN OMITTED FROM THIS DOCUMENT PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT. THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

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Exhibit 10.132

SUPPLY AGREEMENT

BETWEEN

CYDEX PHARMACEUTICALS, INC.

AND

ELI LILLY AND COMPANY

DATED: December 16, 2011

TABLE OF CONTENTS

Section	Title	Page
1.	DEFINITIONS	1
2.	PURCHASE AND SUPPLY OF CAPTISOL	2
3.	SUPPLY TERMS	3
4.	COMPENSATION	7
5.	REPRESENTATIONS AND WARRANTIES	7
6.	TERM AND TERMINATION	7
7.	GENERAL PROVISIONS	8

TABLE OF EXHIBITS

Exhibit	Title	Page
A.	PURCHASE PRICES FOR CAPTISOL	A-1
B.	SPECIFICATIONS	B-1

SUPPLY AGREEMENT

THIS SUPPLY AGREEMENT (this "**Agreement**") is made this 16th day of December, 2011 (the "**Effective Date**") between:

CYDEX PHARMACEUTICALS, INC., a Delaware corporation with offices at 10513 W. 84th Terrace, Lenexa, Kansas 66214 USA ("**CyDex**"); and

ELI LILLY AND COMPANY, an Indiana corporation, with offices at Lilly Corporate Center Indianapolis, Indiana 46285 USA ("**Company**").

RECITALS

WHEREAS, CyDex, a wholly-owned subsidiary of **LIGAND PHARMACEUTICALS INC.**, is engaged in the business of developing and commercializing novel drug delivery technologies designed to enhance the solubility and effectiveness of existing and development-stage drugs, including without limitation Captisol®, a patented drug formulation system designed to enhance the solubility and stability of drugs;

WHEREAS, Company desires to purchase Captisol from CyDex, under the terms and conditions set forth herein; and

WHEREAS, CyDex and Company are contemporaneously entering into a License Agreement (the "**License Agreement**");

NOW, **THEREFORE**, in consideration of the following mutual promises and other good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties, intending to be legally bound, agree as follows:

1. DEFINITIONS.

For the purposes of this Agreement, the terms hereunder shall have the meanings as defined below:

"**Clinical Grade Captisol**" means Captisol which **[***]**.

"**Commercial Grade Captisol**" means Captisol which **[***]**.

"**Detailed Forecast**" shall have the meaning defined in **Section 3.2**.

"**First Commercial Order Date**" shall have the meaning defined in **Section 3.1**.

"**Notice of Default**" shall have the meaning defined in **Section 6.2**.

"**Notice of Termination**" shall have the meaning defined in **Section 6.2**.

"**Permitted Purchaser Requirements**" means the requirements during the Term of all Permitted Purchasers for Captisol brand **[***]**

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

"**Permitted Purchasers**" means, collectively: (i) Company; (ii) Affiliates of Company; (iii) Sublicensees; and (iv) all contract manufacturers of Company, Affiliates of Company and Sublicensees approved in accordance with **Section 2.5** of the License Agreement.

[***] shall have the meanings defined in **Section 3.2**.

"**Specifications**" means the specifications for Captisol set forth in ***Exhibit B*** hereto, as such may be amended from time to time pursuant to **Section 3.10**.

"**Term**" shall have the meaning defined in **Section 6.1**.

"**Testing Methods**" shall have the meaning defined in **Section 3.6(a)**.

[***]

In addition, the terms "**Affiliate**", "**Captisol**", "**Compound**", "**FDA**", "**Licensed Product**", "**Quality Agreement**", "**Sublicensee**" and "**Territory**" shall have the meaning defined in the License Agreement.

2. PURCHASE AND SUPPLY OF CAPTISOL.

2.1 Purchase Commitment. Subject to the provisions of this Agreement and during the Term of this Agreement, Company agrees that Company and other Permitted Purchasers shall purchase and CyDex shall supply one hundred percent (100%) of the Permitted Purchaser Requirements exclusively from CyDex. Except as provided in **Section 3.8(c)**, this Agreement and the License Agreement do not grant Company or any other Permitted Purchaser the right to manufacture (or have manufactured on their behalf) under Licensed Patents, Captisol brand **[***]** without CyDex's prior written consent except as otherwise set forth in this Agreement.

2.2 Supply Commitment. CyDex agrees that CyDex shall produce (or have produced for it as set forth in Section 2.3) and sell to Company **[***]**. Company shall place orders for Captisol on behalf of Permitted Purchasers, and shall guarantee payment to CyDex of all amounts payable with respect thereto. If CyDex decides to stop the manufacture of Captisol they shall give Company adequate notice to establish an independent supply under the terms of Section 3.8 and CyDex shall use good faith commercially reasonable efforts to continue to supply Company from the original manufacturing site until Company has obtained any required amendment or other modification of the regulatory approvals for Licensed Products.

2.3 Third-Party Manufacturers. Without limiting CyDex's responsibility under this Agreement, CyDex shall **[***]**.

2.4 Restrictions. Company covenants and agrees that: (i) all Captisol supplied by CyDex pursuant to this Agreement shall be for use only in Licensed Products (except for testing, etc., required by regulatory authorities; (ii) Company shall obtain the written agreement of each Permitted Purchaser to not resell Captisol and only use Captisol in Licensed Products; and (iii) **[***],** Company shall not make, and shall not permit any other Permitted Purchaser to make, Captisol.

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3. SUPPLY TERMS.

3.1 Long-Term Forecast. At least [***] to the date on which Company will issue its first purchase order to CyDex for Commercial Grade Captisol (the "**First Commercial Order Date**"), Company shall provide CyDex with a non-binding forecast setting forth Company's estimate of the required quantities of Commercial Grade Captisol for each of the following **[***]**. Such long-term forecast shall thereafter be updated by Company at least once every **[***]**.

3.2 Binding Detailed Forecast. At least **[***]** prior the First Commercial Order Date, Company shall provide to CyDex a detailed rolling forecast setting forth Company's requirements and anticipated delivery schedules for Commercial Grade Captisol for each **[***]** during a **[***]** (the "**Detailed Forecast**") which includes **[***]** in which the First Commercial Order Date occurs and the next **[***]**. For purposes of this Agreement, a **[***]** means the consecutive **[***]**. The Detailed Forecast shall thereafter be updated by Company **[***]** on a rolling basis, no later than the **[***]**, so that in each **[***]** CyDex shall have been provided with a rolling Detailed Forecast for each **[***]** during the **[***]**commencing on the **[***]** following the date on which such Detailed Forecast is submitted. The Detailed Forecast shall be firm and binding on Company, subject to the permissible variances set forth in **Section 3.3** below, with respect to the **[***]** covered by such updated Detailed Forecast **[***]**. If Company fails to provide any updated Detailed Forecast in accordance with this **Section 3.2**, the Detailed Forecast last provided by Company shall be deemed to be Company's binding Detailed Forecast for the next succeeding **[***]** period.

3.3 Detailed Forecast Variances. Each updated Detailed Forecast may modify the amount of Commercial Grade Captisol estimated in the previous Detailed Forecast in accordance with the following limitations (the "**Purchase Volume Limitations**"):

(i) for the **[***]** covered by such updated Detailed Forecast, no change may be made to the forecast provided for the **[***]** in the immediately preceding Detailed Forecast without the prior express written consent of CyDex;

(ii) for the **[***]** covered by such updated Detailed Forecast, no change in excess of a **[***]** volume increase or decrease may be made to the forecast provided for the **[***]** in the immediately preceding Detailed Forecast without the prior express written consent of CyDex; and

(iii) for the **[***]** covered by such updated Detailed Forecast, no change in excess of a **[***]** volume increase or decrease may be made to the forecast provided for the **[***]** in the immediately preceding Detailed Forecast without the prior express written consent of CyDex.

For clarity, CyDex shall have no obligation to supply or deliver quantities of Captisol greater than the Purchase Volume Limitations.

3.4 Purchase Orders. Together with each Detailed Forecast provided under **Section 3.2**, Company shall place a firm purchase order with CyDex in a form mutually agreed upon by the parties, for Company's order of Commercial Grade Captisol for the **[***]**, as applicable, of the Detailed Forecast for delivery consistent with the Detailed Forecast. Each purchase order, for all grades of Captisol, shall specify: (i) the grade of Captisol ordered (*i.e.*, Commercial Grade Captisol or Clinical Grade Captisol); (ii) quantities; (iii) delivery dates; and (iv) reasonable shipping instructions. Company's requested delivery dates shall be at least **[***]** after the date of Company's purchase order. If any purchase order or other document submitted by Company hereunder or any other document passing between the parties contains terms or conditions in addition to or inconsistent with the terms of this Agreement, the terms of this Agreement shall control and prevail and such additional or inconsistent terms are hereby expressly rejected.

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3.5 Delivery. Unless otherwise agreed in writing by the parties, Captisol shall be delivered **[***].** Company acknowledges the inherent risk that a batch of Captisol may be lost in production or shipment, and Company shall use commercially reasonable efforts to maintain a sufficient inventory of Captisol in the event of late delivery by CyDex. Quantities actually delivered to Company pursuant to an accepted purchase order may vary from the quantities reflected in such purchase order by up to **[***]** and still be deemed to be in compliance with such purchase order; *provided, however,* **[***]**.

3.6 Quality Control; Acceptance and Rejection.

(a) Quality Control. The Parties shall enter into a mutually agreeable Quality Agreement within **[***]** of the Effective Date, unless otherwise mutually agreed by the Parties. The Quality Agreement will clearly describe audit rights and procedures, which shall be consistent with this Agreement. CyDex shall conduct or have conducted quality control testing of Captisol prior to shipment in accordance with the Specifications and other CyDex-approved quality control testing procedures (the "Testing Methods"). CyDex shall retain or have retained accurate and complete records pertaining to such testing. Each shipment of Captisol hereunder shall be accompanied by a certificate of analysis for each lot of Captisol therein.

(b) Acceptance Testing. Company shall have a period of **[***]** from the date of receipt to test or cause to be tested Captisol supplied under this Agreement. Company or its designee shall have the right to reject by notice to CyDex any shipment of Captisol that does not conform in all material respects with the Specifications at the time of delivery pursuant to **Section 3.5** hereof when tested in accordance with the Testing Methods. All shipments of Captisol shall be deemed accepted by Company unless CyDex receives written notice of rejection from Company within such **[***]** period describing the reasons for the rejection in reasonable detail. Once a delivery of Captisol is accepted or deemed accepted hereunder, Company shall have no recourse against CyDex in the event Captisol is subsequently deemed unsuitable for use for any reason, except as provided in **Section 10.1** of the License Agreement.

(c) Latent Defects. As soon as either party becomes aware of a latent defect in any Captisol lot, it will promptly notify the other party of such event (including reasonable details and the lot involved). If Captisol accepted by Company becomes non-conforming by virtue of the later discovery of a latent defect, Company may place the lot on quality assurance hold pending CyDex's investigation and a final resolution of the claimed Latent Defect. In the event that such Captisol is found to contain a latent defect, such Captisol will be deemed rejected as of the date of the notice, and the rights and obligations of the parties with respect to the rejected Captisol will thereafter be governed by the same process as governs acceptance testing set forth below.

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(d) Confirmation. After its receipt of a notice of rejection from Company pursuant to **Section 3.6(b)** or **(c)** above, CyDex shall notify Company as soon as reasonably practical whether it accepts Company's basis for rejection and Company shall cooperate with CyDex in determining whether such rejection was necessary or justified. If the parties are unable to agree as to whether a shipment of Captisol supplied by CyDex or its Third-Party Manufacturer hereunder meets the Specifications, such question shall be submitted to an independent quality control laboratory mutually agreed upon by the parties. The findings of such independent laboratory shall be binding upon the parties. The cost of the independent quality control laboratory shall be borne by the party whose results are shown by such laboratory to have been incorrect.

(e) Return or Destruction of Rejected Shipments. Company may not return or destroy any batch of Captisol until it receives written notification from CyDex that CyDex does not dispute that the batch fails to meet the Specifications. CyDex will indicate in its notice either that Company is authorized to destroy the rejected batch of Captisol or that CyDex requires return of the rejected Captisol. Upon written authorization from CyDex to do so, Company shall promptly destroy the rejected batch of Captisol. Upon receipt of CyDex's request for return, Company shall promptly return the rejected batch of Captisol to CyDex. **[***]**.

(f) Refund or Replacement. Company shall not be required to pay any invoice with respect to any shipment of Captisol properly rejected pursuant to this **Section 3.6**. Notwithstanding the foregoing, Company shall be obligated to pay in full for any rejected shipment of Captisol that is subsequently determined to meet the Specifications in all material respects, irrespective of whether Company has already paid CyDex for a replacement shipment. If Company pays in full for a shipment of Captisol and subsequently properly rejects such shipment in accordance with this **Section 3.6**, Company shall be entitled, upon confirmation that such shipment failed to meet the Specifications in all material respects, either: **[***]**.

(g) Exceptions. Company's rights of rejection, return, refund and replacement set forth in this **Section 3.6** shall not apply to any Captisol that is non-conforming due to damage (i) caused by Company, its Affiliates or Permitted Purchasers or their respective employees or agents, including but not limited to, misuse, neglect, improper storage, transportation or use beyond any dating provided or (ii) that occurs subsequent to delivery of such Captisol to the carrier at the point of origin, including but not limited to any damage caused thereafter by accident, fire or other hazard and CyDex shall have no liability or responsibility to Company with respect thereto.

3.7 Facilities and Inspections. CyDex shall permit a reasonable and limited number Company's authorized representatives, during normal working hours and upon reasonable prior notice to CyDex but in no event less than **[***]** prior notice (subject to Third Party Manufacturer's consent to be reasonably sought by CyDex), to confidentially inspect for a reasonable and limited number of days that portion of all CyDex facilities utilized for the manufacture, preparation, processing, storage or quality control of Captisol or such facilities of any Third-Party Manufacturer, no more frequently than **[***]**. If a defect in Licensed Product is attributed to Captisol, there are pending Licensed Product recall decisions, or significant regulatory actions, such as warning letters, then a for-cause audit upon short notice may be performed by Company. Company's authorized representatives shall be accompanied by CyDex personnel at all times, shall be qualified to conduct such manufacturing audits, shall comply with

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all applicable rules and regulations relating to facility security, health and safety Company shall ensure that its authorized representatives conduct each manufacturing audit in such a manner as to not interfere with the normal and ordinary operations of CyDex or its Third-Party Manufacturer. Except as expressly set forth in this **Section 3.7**, Company, Permitted Purchasers and their respective employees or representatives shall not have access to CyDex's facilities or the facilities of any Third-Party Manufacturer.

3.8 [***]

(a) Notice. CyDex shall notify Company if CyDex is **[***]** ordered by Company within **[***]** after CyDex's receipt of a purchase order from Company.

(b) Allocation. [***] shall take all reasonable steps necessary to minimize supply delays.

(c) Alternate Suppliers. If CyDex fails to supply to Company with **[***]** of the quantity of Captisol properly forecasted and ordered by Company (and provided such order was within the Purchase Volume Limitations) in accordance with this Agreement, for a period of **[***]** or longer ("**Supply Interruption**"), then CyDex shall immediately provide written notice to Company of the Supply Interruption. **[***]**. In the event of a **[***]**:

(i) **[***]**

(ii) **[***]**

If CyDex is unable to resolve such **[***]** within **[***]** after the first day of the **[***]** or has not taken steps within such time period likely to resolve such **[***]** pursuant to clauses **3.8(c)(i) or (ii)**, then Company shall **[***].** CyDex shall provide at its cost all assistance and technical information required to **[***]** (which shall not include **[***]** which is **[***]**) to Company or its contract manufacturer shall be subject to contractual covenants regarding confidentiality and limitations on use. In the event of a dispute between the parties as to whether or not a Supply Interruption has occurred, such dispute shall be finally resolved by arbitration in accordance with **Section 14.4** of the License Agreement.

3.9 Product Recalls. If any Captisol should be alleged or proven not to meet the Specifications, Company shall notify CyDex immediately, and both parties shall cooperate fully regarding the investigation and disposition of any such matter. If (i) Company recalls any Licensed Product, or (ii) the FDA requires the recall of any Licensed Product, and in either case such recall is solely due to the failure of Captisol to conform to the relevant Specifications at the time of delivery by CyDex or for latent defect, then CyDex agrees, upon substantiation thereof, **[***]**. Company shall procure that Permitted Purchasers maintain records of all sales of Licensed Product sufficient to adequately administer any such recall, for a period of **[***]** after expiration or termination of this Agreement.

3.10 Modified Specifications. CyDex shall have the right to change the Specifications from time to time during the Term. In the event that CyDex modifies the Specifications, CyDex shall give Company at least **[***]** notice before implementation of such change and shall use good faith commercially reasonable efforts to continue to supply against the original Captisol specification until Company has obtained any required amendment or other modification of the

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Licensed Product regulatory approvals. **[***]**. In the event that any regulatory agency having jurisdiction requires CyDex to implement any changes to the Specifications for Captisol generally (and not for a Licensed Product specifically), CyDex shall use all reasonable efforts to make such changes and shall, within **[***]** of learning of required changes to the Specifications, advise Company as to any lead-time changes or other terms that may result from a change to the Specifications.

4. COMPENSATION.

4.1 Pricing. The purchase prices for Captisol pursuant to this Agreement are as specified in ***Exhibit A***. CyDex reserves the right to increase such purchase prices set forth in ***Exhibit A*** up to **[***]**.

4.2 Payments. All amounts due hereunder are stated in, and shall be paid in, U.S. dollars. Payment of CyDex's invoices shall be made within **[***]** days of Company's receipt of such invoices The purchase prices for Captisol specified in ***Exhibit A*** exclude all applicable sales, use, and other taxes, and Company will be responsible for payment of all such taxes (other than taxes based on CyDex's income), fees, duties, and charges, and any related penalties and interest, arising from the payment of amounts due hereunder. If any amount due hereunder and not subject to a reasonable, good-faith dispute by Company remains outstanding for more than **[***]** after its due date, CyDex may, in addition to any other rights or remedies it may have, refuse to ship Captisol.

5. REPRESENTATIONS AND WARRANTIES.

5.1 [***].

5.2 Mutual Representations and Warranties. The provisions of **Section 9.1** (Mutual Representations and Warranties) of the License Agreement are incorporated herein by reference as if fully set forth herein.

5.3 Disclaimer. THE WARRANTIES SET FORTH IN THIS **SECTION 5** ARE PROVIDED IN LIEU OF, AND EACH PARTY HEREBY DISCLAIMS, ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT OR CAPTISOL, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS. CYDEX'S WARRANTIES UNDER THIS AGREEMENT ARE SOLELY FOR THE BENEFIT OF COMPANY AND MAY BE ASSERTED ONLY BY COMPANY AND NOT ANY AFFILIATE, PERMITTED PURCHASER OR OTHER THIRD PARTY. COMPANY SHALL BE SOLELY RESPONSIBLE FOR ALL REPRESENTATIONS AND WARRANTIES THAT COMPANY OR ITS AFFILIATES MAKE TO ANY PERMITTED PURCHASER.

6. TERM AND TERMINATION.

6.1 Term. Unless terminated earlier as set forth herein, the term of this Agreement (the "**Term**") shall commence on the Effective Date and shall continue until the expiration or termination of the License Agreement.

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6.2 Termination for Breach. If either party should violate or fail to perform any term or covenant of this Agreement, then the other party may give written notice of such default (a "**Notice of Default**") to the first party. If such party should fail to cure such default within **[***]** (or **[***]** with respect to any payment obligation) of the date of such notice or prior to the natural expiration date of this Agreement, whichever is shorter in duration, the other party shall have the right to terminate this Agreement by a second written notice (a "**Notice of Termination**") to the first party. If Notice of Termination is sent to such first party, this Agreement shall automatically terminate on the effective date of such notice.

6.3 Termination for Bankruptcy. Either party may terminate this Agreement immediately upon written notice to the other party in the event that the first party makes an assignment for the benefit of creditors or has a petition in bankruptcy filed for or against it that is not dismissed within **[***]** of such filing.

6.4 Effect of Termination. Upon the termination of this Agreement by CyDex under Section 6.2, (i) Company shall no longer have any rights to purchase Captisol, and (ii) each party shall promptly return all relevant records and materials in its possession or control containing the other party's Confidential Information with respect to which the former party does not retain rights hereunder. Upon the termination of this Agreement by Company under Section 6.2, Company shall retain its rights to Captisol but the amounts (e.g., royalties) due hereunder shall be reduced by a mutually agreed upon percentage and Company shall have the right to purchase from and/or create other Captisol sources.

6.5 Survival. Notwithstanding any other provisions of this Agreement, any liability or obligation of either party to the other for acts or omissions prior to the termination or expiration of this Agreement shall survive the termination or expiration of this Agreement. Such termination or expiration shall not relieve either party from obligations that are expressly indicated to survive termination or expiration of this Agreement, nor shall any termination or expiration of this Agreement relieve Company of its obligation to pay CyDex sums due in respect of Captisol shipped prior to termination or expiration of this Agreement. Sections 2.4 (Restrictions), 3.6(e) (Refund or Replacement), 3.9 (Product Recalls), 4.2 (Payments), 5.3 (Disclaimer), 6.4 (Effect of Termination), 6.5 (Survival) and 7 (General Provisions) shall survive termination or expiration of this Agreement.

7. GENERAL PROVISIONS.

The following Sections of the License Agreement are incorporated into this Agreement by this reference as if fully set forth herein: 3.2 (Grantback License), 7.2 (Material Safety), 7.3 (Adverse Event Reporting), 8 (Confidentiality), 10 (Indemnification), 11 (Limitation of Liability), 12 (Management of Intellectual Property), and 14 (General Provisions).

[Remainder of this page left blank intentionally]

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IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

CYDEX PHARMACEUTICALS, INC.

By: /s/ Charles Berkman

Name: Charles Berkman

Title: VP and Secretary

ELI LILLY & CO.

By: /s/ Newton F. Crenshaw

Name: Newton F. Crenshaw

Title: V.P. Oncology Business Unit

EXHIBIT A

PURCHASE PRICES FOR CAPTISOL

All prices are **[***]**.

[***]	**[***]**	**[***]**
[***]	**[***]**	**[***]**
[***]	**[***]**	
[***]		
[***]	**[***]**	
[***]	**[***]**	**[***]**
[***]	**[***]**	

Such prices are subject to adjustment pursuant to ***Section 4.1***.

* * * * *

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Exhibit 10.133

CERTAIN MATERIAL (INDICATED BY AN ASTERISK) HAS BEEN OMITTED FROM THIS DOCUMENT PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT. THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION.

LICENSE AND SUPPLY AGREEMENT

THIS LICENSE AND SUPPLY AGREEMENT (this "**Agreement**") is made this 22nd day of December, 2011 (the "**Effective Date**") between:

CYDEX PHARMACEUTICALS, INC., (a wholly-owned subsidiary of Ligand Pharmaceuticals Incorporated) a Delaware corporation with offices at 10513 W. 84th Terrace, Lenexa, Kansas 66214 ("**CyDex**"); and

HOSPIRA, INC., a Delaware corporation with offices at 275 N. Field Drive, Lake Forest, Illinois 60045 ("**Hospira**").

RECITALS

WHEREAS, CyDex is engaged in the business of developing and commercializing novel drug delivery technologies designed to enhance the solubility and effectiveness of existing and development-stage injectable pharmaceutical drugs;

WHEREAS, CyDex is the supplier of Captisol®, a patented drug formulation system designed to enhance the solubility and stability of drugs;

WHEREAS, Hospira is, among other things, currently engaged in or intends to engage in the business of manufacturing and selling certain finished drug products of which said Captisol is a component;

WHEREAS, Hospira desires to obtain a license to use Captisol together with the Compound (defined below) for the development and commercialization of the Finished Product (defined below) and CyDex is willing to grant such license to Hospira under the terms and conditions set forth herein; and

WHEREAS, CyDex desires to sell Captisol to Hospira or its Contract Manufacturers (defined below), and Hospira desires to obtain supplies of Captisol from CyDex, for use in development of and in the Finished Product under the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the following mutual promises and other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties, intending to be legally bound, agree as follows:

15. DEFINITIONS.

For the purposes of this Agreement, the following terms whether used in singular or plural form shall have the meanings as defined below:

"Affiliate" means, with respect to any party, any entity controlling, controlled by, or under common control with such party, during and for such time as such control exists. For these purposes, "control" shall refer to the ownership, directly or indirectly, of at least **[***]**% of the voting securities or other ownership interest of the relevant entity.

"Act" shall mean the U.S. Food, Drug & Cosmetic Act and the regulations promulgated thereunder.

"ADR" has the meaning specified in **Exhibit F**.

"Authorization Letter" has the meaning specified in **Section 6.13**.

"Bankruptcy Code" means title 11 of the United States Code.

"Business Day" shall mean any day of the week which is not a Saturday, Sunday or legal holiday observed by the federal government of the United States.

"Captisol" means Captisol, also known scientifically as **[***]**.

"Captisol Data Package" means (a) the DMF/CEP for Captisol, (b) all toxicology/safety and other relevant scientific safety data owned, licensed to or developed by CyDex and/or its Affiliates; and (c) all toxicology/safety and other relevant scientific safety data owned, licensed to or developed by the licensees or sublicensees of CyDex and/or its Affiliates and/or other third parties (to the extent permitted in the applicable license or other agreements between CyDex and/or its Affiliates and such licensees, sublicensees or other third parties), in each case on Captisol alone (and not in conjunction with a product formulation).

[***]

"Certificate of Analysis" shall mean a document which is signed and dated by a duly authorised representative of CyDex certifying that the Captisol conforms with the Specifications.

"**Claim**" has the meaning specified in **Section 9.1**.

"Clinical Grade Captisol" means **[***]**

"Commercial Grade Captisol" means **[***]**

"Competing Product" shall mean any pharmaceutical product containing the Compound **[***]**.

"Compound" means that certain compound known as **[***]**.

"Confidential Information" has the meaning specified in **Section 7.1**.

"Contract Manufacturer" has the meaning specified in **Section 2.3**.

"Control" shall mean, with respect to any Intellectual Property, possession by a party or its Affiliates of the right, whether directly or indirectly, and whether by ownership, license or otherwise, to assign, grant the right to use, or grant a license, sublicense or other right to or under, such right as provided for herein without violating the terms of any agreement or other arrangement with any Third Party.

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“Cover” (including variations thereof such as “Covered”) means that the manufacture, use, importation or sale of the product to which such term is being applied would infringe a Valid Claim of a patent in the absence of a grant of rights under such patent. The determination of whether an item or process is Covered by a Valid Claim shall be made on a country-by-country basis.

“Cover Costs” has the meaning specified in **Section 3.6(b).**

“CPR” has the meaning specified in **Exhibit F**.

“Customer Supply Agreements” has the meaning specified in **Section 3.6(b).**

“CyDex Intellectual Property” shall mean all Intellectual Property which pertains to Captisol and/or the Finished Product which now or at any time during the Term is Controlled by CyDex or any of its Affiliates including, without limitation, the Licensed Patents, the Captisol Data Package, all Captisol Improvements and all of CyDex’s and any of its Affiliates’ Know-How.

“Debarred Entity” has the meaning specified in **Section 8.6.**

“Debarred Individual” has the meaning specified in **Section 8.6**.

“Disclosing Party” has the meaning specified in **Section 7.1**.

“DMF/CEP” means the **[***]** relating to Captisol and comprises all information in relation to Captisol which **[***]**.

“Excess Demand” shall mean the quantity of Captisol requested by Hospira in its purchase orders for any particular **[***]** that is in excess of **[***]**% of the latest forecasted amount for such **[***]** provided to CyDex under **Section 3.3**.

“Exclusivity Period” means the period beginning on the Effective Date and ending on **[***]**; provided, that in the event of any timely extension or extensions purchased under **Section 4.1(b)**, the Exclusivity Period shall end on the last day of the last such extension.

“FDA” means the United States Food and Drug Administration, or any successor thereto.

“Finished Product” means the Compound combined with or formulated using Captisol in a dosage form/formulation. **[***]**.

“First Commercial Sale” shall mean the first sale of the Finished Product (manufactured using the Captisol provided hereunder) **[***]**

“Good Manufacturing Practices” shall mean current and any future good manufacturing practices and quality system regulations set forth by the FDA or any other national or supra-national Regulatory Authority of **[***]** in which the Finished Product shall be manufactured or sold, plus the current and any future good manufacturing practices and quality system regulations in the country(ies) in which Captisol is manufactured.

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"Indemnified Party" has the meaning specified in **Section 9.4**.

"Indemnifying Party" has the meaning specified in **Section 9.4**.

"Intellectual Property" shall mean all existing and future intellectual property throughout the world, including (but not limited to) Know-How, trade secrets, patent rights, data, reports, Regulatory Approvals, including applications therefor, and any other results of intellectual activity, including the right to apply for registration of such rights.

"Know-How" shall mean all technical information and other technical subject matter, proprietary methods, ideas, concepts, formulations, discoveries, inventions, devices, technology, trade secrets, compositions, designs, formulae, know-how, show-how, specifications, drawings, techniques, results, processes, methods, procedures and/or designs whether or not patentable.

"Licensed Patents" means all patents and patent applications in the Territory which pertain to Captisol and which now or at any time during the Term are Controlled by CyDex or any CyDex Affiliate, including any and all extensions, renewals, continuations, substitutions, continuations-in-part, divisions, patents-of-addition, reissues, reexaminations and/or supplementary protection certificates to any such patents. For avoidance of doubt, all intellectual property pertaining to the Finished Product generated by Hospira or its Affiliates or their Sublicensees during the Term of this Agreement shall be solely owned by Hospira and shall not be part of the Licensed Patents. Set forth in ***Exhibit A*** attached hereto is a list of the Licensed Patents as of the Effective Date. CyDex shall supplement ***Exhibit A*** from time to time during the Term.

"Losses" has the meaning set forth in **Section 9.1**.

"Major-Market" means the **[***]**.

[***]

"Non-breaching Party" has the meaning specified in **Section 11.2**.

"Notified Party" has the meaning specified in **Section 11.2**.

[***]

[***]

"Receiving Party" has the meaning specified in **Section 7.1**.

"Regulatory Approval" means, the technical, medical and scientific licenses, registrations, authorizations and approvals required for the manufacture, use, storage, import, transport, marketing, promotion, selling, and placing on the market of a product (including, without limitation, approvals of ANDAs and SNDAs submitted to the FDA and similar applications filed with other Regulatory Authorities in the Territory, post-approval changes, pricing and Third Party reimbursement approvals, and labeling approvals) by any Regulatory Authority in the Territory. This includes any authorization necessary for the development, manufacture, distribution, marketing, promotion, offer for sale, use, import, export or sale of a product within the Territory.

"Regulatory Filing" shall mean any filing made with a Regulatory Authority to obtain a Regulatory Approval.

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“Regulatory Authorities” shall mean the FDA and its successors and any other governmental agencies in the Territory which are responsible for granting manufacturing, marketing, price and/or reimbursement price authorizations and includes applicable national, supra-national (e.g., the European Commission or the Council of the European Union), state or local regulating groups, departments, bureau commissions, councils or other governmental entities in the Territory that have jurisdiction over Captisol or the Finished Product, whether relating to the development, manufacture, handling, storage transportation, destruction otherwise.

“Renewal Term” has the meaning specified in **Section 11.1**.

“Required Changes” has the meaning specified in **Section 3.10(b)**.

“Specifications” means the specifications for Captisol set forth in ***Exhibit B*** hereto, as such may be amended from time to time in accordance with the terms of this Agreement.

“Sublicensees” has the meaning specified in **Section 2.2**.

[***]

“Term” has the meaning specified in **Section 11.1**.

“Territory” means the entire world (but subject to **Section 2.6** hereof).

“Third Party” means any person or entity or authority other than CyDex or Hospira or an Affiliate of either of them.

“Third Party Rights” has the meaning specified in **Section 3.6**.

“Transfer License” has the meaning specified in **Section 3.6**.

“Valid Claim” means (a) any claim of an issued and unexpired Licensed Patent that (i) has not been held permanently revoked, unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction, which decision is unappealable or unappealed within the time allowed for appeal, and (ii) has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer or otherwise; or (b) any claim of a pending Licensed Patent that was filed and is being prosecuted in good faith and has not been abandoned or finally disallowed without the possibility of appeal or re-filing of the application.

16. GRANT OF RIGHTS.

16.1 License Grants from CyDex to Hospira.

(a) Licensed Patents. Subject to the terms and conditions of this Agreement, CyDex hereby grants to Hospira a world-wide, nontransferable (except with respect to the assignment provision in **Section 12.13**), sublicensable, **[***]** during the Term under the Licensed Patents, solely to **[***]** the Finished Product in the Territory. For the duration of the Exclusivity Period, such license shall be exclusive even as to CyDex and its Affiliates; after the expiration of the Exclusivity Period, such license shall be non-exclusive. Notwithstanding the foregoing, to the extent that any Licensed Patents are licensed to CyDex or its Affiliates by a Third Party on a non-exclusive basis, Hospira acknowledges that the license granted to Hospira in this **Section 2.1(a)** to any such Licensed Patents shall during the Exclusivity Period be exclusive as to CyDex and its Affiliates and non-exclusive as to any Third Party licensee who obtained a license to any such Licensed Patents other than from CyDex or any of its Affiliates or any of their sublicensees. Hospira may not sublicense the Licensed Patents, except as expressly set forth in **Section 2.2** and **Section 2.3** below.

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(b) Other Intellectual Property License. Subject to the terms and conditions of this Agreement, CyDex hereby grants to Hospira a world-wide, nontransferable (except with respect to the assignment provision in **Section 12.13**), sublicensable, **[***]** during the Term to all other CyDex Intellectual Property, including, without limitation, to CyDex's rights in and to the Captisol Data Package, solely to **[***]** the Finished Product in the Territory. For the duration of the Exclusivity Period, such license shall be exclusive even as to CyDex and its Affiliates; after the expiration of the Exclusivity Period, such license shall be non-exclusive. Notwithstanding the foregoing, to the extent that any contents of the Captisol Data Package are licensed to CyDex or its Affiliates by a Third Party on a non-exclusive basis, the license granted to Hospira in this **Section 2.1(b)** to any such contents of the Captisol Data Package shall during the Exclusivity Period be exclusive as to CyDex and its Affiliates and non-exclusive as to any Third Party licensee who obtained a license to any such contents of the Captisol Data Package other than from CyDex or any of its Affiliates or any of their sublicensees. Hospira may not sublicense its rights to the Captisol Data Package, except as expressly set forth in **Section 2.2** and **Section 2.3** below.

(c) Scope of Licenses. CyDex grants no licenses or rights to use other than as expressly set forth herein. Hospira agrees not to use Captisol supplied hereunder other than as expressly set forth herein. Unless otherwise expressly provided in this Agreement, CyDex grants no rights to Hospira to manufacture, import, sell or offer for sale bulk Captisol.

(d) Bankruptcy Code. All rights and licenses granted under or pursuant to this Agreement by CyDex to Hospira are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101 of the Bankruptcy Code. The parties agree that Hospira, as a licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code.

(e) Disclosure of and Compliance with Licenses. ***Exhibit C*** sets forth a list of all licenses under which, pursuant to Section 2.1, Hospira is granted a sub-license by CyDex and/or its Affiliates. If CyDex or any of its Affiliates enters into any future license agreements under which, pursuant to Section 2.1, Hospira is granted a sub-license by CyDex and/or its Affiliates, CyDex will promptly disclose such license agreements to Hospira. CyDex shall comply and shall cause its Affiliates to comply with the provisions of all such licenses, including without limitation all such licensing provisions of the **[***]**.

(f) [***].

16.2 Sublicensing. Hospira shall have the right to grant sublicenses to any Third Party (collectively "**Sublicensees**") under the licenses granted to Hospira pursuant to **Section 2.1**; **[***]**

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16.3 Contracting. Hospira and any of its Affiliates may manufacture the Finished Product (but, except as otherwise expressly provided in this Agreement, not the bulk Captisol if the manufacture of bulk Captisol would be Covered by a Licensed Patent for which there is a Valid Claim or if such manufacture would require a license to CyDex Intellectual Property) or contract the manufacture of the Finished Product (but, except as otherwise expressly provided in this Agreement, not the manufacture of bulk Captisol if the manufacture of bulk Captisol would be Covered by a Licensed Patent for which there is a Valid Claim or if such manufacture would require a license to CyDex Intellectual Property) with any Third Party manufacturers selected by Hospira (each a "**Contract Manufacturer**"). To the extent necessary to engage a Contract Manufacturer for the Finished Product, Hospira shall be permitted under this Agreement to grant any such Contract Manufacturer a sublicense under the licenses granted to Hospira pursuant to **Section 2.1**; provided that Hospira shall comply with the requirements of Section **2.2**. For the sake of clarity, Hospira, its Affiliates and any of their Contract Manufacturers may at all times manufacture **[***]** provided that the manufacture of such **[***]** is not Covered by a Licensed Patent for which there is a Valid Claim and such manufacture would not require a license to CyDex Intellectual Property.

16.4 Negative Covenants by CyDex.

(a) During the Exclusivity Period, neither CyDex nor any of its Affiliates shall directly themselves, or grant any Third Party any right or license to any of the CyDex Intellectual Property to research, develop, modify, make, have made, import, export, use, promote, market, distribute, package, offer for sale, sell, or otherwise commercially exploit the Finished Product or any Competing Product.

(b) During the Exclusivity Period, neither CyDex nor any of its Affiliates shall themselves nor provide any Third Party any assistance whatsoever to **[***]**.

(c) During the Exclusivity Period, neither CyDex nor any of its Affiliates shall supply Captisol to any Third Party other than a Hospira designee to utilize Captisol to **[***]** the Finished Product or any Competing Product. If during the Exclusivity Period any such Third Party, or any other Third Party that acquires any Captisol, commences to **[***]** the Finished Product or any Competing Product, CyDex must immediately cease and cause its Affiliates and any other Third Parties to immediately cease supplying Captisol to the offending Third Party for the duration of the Exclusivity Period or until (if sooner) assurances reasonably satisfactory to Hospira that the infringing use has ended and will not resume have been obtained.

16.5 [***].

16.6 Negative Covenants by Hospira.

(a) Notwithstanding anything to the contrary in this Agreement, Hospira agrees not to **[***]** any Finished Product or Captisol in **[***]**.

(b) Hospira covenants and agrees that it and its Affiliates, Sublicensees and Contract Manufacturers shall not re-sell any Captisol purchased pursuant to this Agreement (except as incorporated into the Finished Product), and shall not use any Captisol purchased pursuant to this Agreement except in connection with the Finished Product.

(c) Notwithstanding anything to the contrary herein, Hospira shall only have a license or right to use or reference CyDex's DMF/CEP in conjunction with Captisol supplied by CyDex or manufactured by Hospira or any Hospira designee pursuant to **Section 3.6**.

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17. MANUFACTURE AND SUPPLY OF CAPTISOL.

17.1 Supply.

(a) Subject to the terms and conditions of this Agreement, CyDex agrees to supply to Hospira those quantities of Captisol ordered by Hospira in accordance with **Section 3.2** of this Agreement. So long as CyDex is able to deliver Captisol in accordance with the terms of this Agreement, except as provided in **Section 3.11 (c)** below, Hospira agrees that Hospira and its Affiliates shall during the Term order from CyDex no less than 90% of Hospira and its Affiliates aggregate requirements for Captisol for use in the formulation of Finished Product to be sold in the Major-Market countries.

(b) The parties hereby agree that **[***]** is CyDex's Third-Party manufacturer of Captisol as of the Effective Date of this Agreement.

17.2 Purchase Orders. Hospira shall periodically submit firm purchase orders for Captisol to CyDex, which purchase orders shall set forth the specific quantities needed, the grade of Captisol required, delivery date and shipping instructions. Such purchase orders shall be submitted to CyDex at least **[***]** but not more than **[***]** prior to the required delivery date specified therein. If any purchase order or other document submitted by Hospira hereunder or any other document passing between the parties contains terms or conditions in addition to or inconsistent with the terms of this Agreement, the terms of this Agreement shall control and prevail and the parties hereby agree that such additional or inconsistent terms shall simply be ignored and deemed not to exist, unless they are expressly identified as being additional to or inconsistent with this **Section 3.2** and are signed by officers of both parties.

17.3 Forecasts and Excess Demand. No later than the First Commercial Sale date, Hospira shall provide to CyDex a **[***]** forecast of its requirements for Captisol, with the first **[***]** of such forecast constituting a binding commitment upon Hospira to purchase such quantities under firm purchase orders submitted for the respective applicable **[***]** in accordance with **Section 3.2**. The balance of the forecast shall merely represent reasonable good-faith estimates for planning purposes only and shall not obligate Hospira to purchase any such amounts. On a **[***]** basis, Hospira shall update the forecast. If Hospira fails to provide any updated forecast in accordance with this **Section 3.3**, the forecast last provided by Hospira shall be deemed to be resubmitted as Hospira's binding forecast for the next succeeding **[***]** period, and with the same quantity and timing as had been forecasted (or deemed to be forecasted) for the **[***]** of the prior forecast being repeated as the forecasted quantity and timing for the forecast's **[***]**. CyDex shall notify Hospira as soon as possible, but in any event within **[***]** of the receipt of any forecast, if CyDex will be unable to deliver Captisol in accordance with such forecast. CyDex's providing of such notification shall not be interpreted in any manner as relieving CyDex of its obligations under this Agreement, nor shall it prevent Hospira from pursuing any and all rights and remedies Hospira may have based on CyDex's failure to be able to deliver Captisol in accordance with the terms of this Agreement. If any purchase order includes an Excess Demand, then (a) CyDex shall supply the quantity of Captisol which does not constitute an Excess Demand to Hospira in accordance with **Section 3.2**, and (b) CyDex shall use commercially reasonable efforts to supply the Excess Demand quantities of Captisol requested by Hospira in its purchase orders as soon as commercially possible.

17.4 Delivery Terms.

(a) CyDex agrees to deliver Captisol to Hospira's carrier at a continental United States factory or warehouse designated by CyDex, in accordance with the purchase orders submitted by Hospira in accordance with **Section 3.2** (each such delivery to be accompanied by a copy of the purchase order submitted by Hospira that corresponds to such delivery). All Captisol shall be delivered to Hospira

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using the carrier and in accordance with the delivery schedule specified by Hospira in its purchase orders. Captisol shall be delivered by CyDex to Hospira **[***]**. CyDex will provide the carrier with proper instructions regarding how to transport the Captisol in conditions which will not adversely affect the Captisol, including ensuring that the shipment is temperature monitored and the Captisol is kept at an appropriate temperature throughout shipment.

(b) If CyDex is unable to deliver the Captisol on the date specified by Hospira, CyDex shall notify Hospira as soon as possible, but in any event within **[***]** of receipt of the purchase order. CyDex's providing of such notification shall not be interpreted in any manner as relieving CyDex of its obligations under this Agreement, nor shall it prevent Hospira from pursuing any and all rights and remedies Hospira may have based on CyDex's failure to deliver the Captisol in accordance with the terms of this Agreement.

(c) With each shipment of Captisol, CyDex shall, if so requested, provide by reference or otherwise all documentation as is reasonably required by any **[***]** from time to time in connection with Hospira's research, development, modification, manufacture, importation, exportation, use, promotion, marketing, distribution, packaging, offering for sale, selling, and otherwise commercially exploitation, as applicable, of Captisol or the Finished Product. If such documentation is not supplied Hospira may reject the Captisol.

17.5 Safety Stock. Within **[***]** of CyDex's receipt of the first purchase order from Hospira, CyDex shall establish and maintain a safety stock of at least **[***]** of Captisol available to Hospira based on Hospira's latest forecast provided under **Section 3.3**. CyDex shall keep Hospira reasonably informed of the level of inventory identified as the safety stock and shall notify Hospira in the event any deliveries to Hospira deplete the current safety stock levels.

17.6 Failure to Supply.

(a) CyDex shall maintain sufficient capacity to manufacture Hospira's projected needs for Captisol during the Term. If CyDex fails to deliver or anticipates that it will be unable to deliver any quantity of Captisol ordered pursuant to the terms of this Agreement for **[***]**, CyDex will promptly notify Hospira. If CyDex fails to deliver any quantity of Captisol for **[***]**, if such notice is received from CyDex, or if upon request by Hospira CyDex fails to provide adequate assurance of its ability to continue to deliver Captisol as required by the terms of this Agreement, then Hospira in its sole discretion and without impairing or limiting any other rights that Hospira may have under this Agreement or under applicable law, including, without limitation, its rights under Sections 2-609 and 2-610 of the Uniform Commercial Code, shall have the right to agree to a revised delivery date or Hospira may: **[***]** above, CyDex shall assist Hospira, if so requested by Hospira, by **[***]**.

(b) **[***]**.

(c) **[***]**.

(d) Alternate Manufacturers. If CyDex fails to supply to Hospira, or if CyDex will be unable to supply Hospira with **[***]**% or more of the quantity of Captisol properly forecasted and ordered by Hospira in accordance with this Agreement, for a period of **[***]** then CyDex shall immediately provide written notice to Hospira of the **[***]**. In the event of a **[***]** in addition to any other rights and remedies Hospira may have under this Agreement, or in equity, or at law:

(i) **[***]**.

(ii) **[***]**.

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17.7 Inspection and Acceptance.

(a) CyDex shall test and inspect each lot of Captisol for compliance with Specifications prior to the release and shipment thereof to Hospira. CyDex will provide a Certificate of Analysis with each shipment of each lot of Captisol signed by the responsible quality official of CyDex. This Certificate of Analysis must include the results (whether numerical or otherwise) for each test performed that verifies that the Captisol is in compliance with the Specifications, as well as a statement that the subject lot was manufactured in accordance with the appropriate DMF/CEP. To the extent that any reference standard material is delivered to Hospira along with any shipment of Captisol as a result of Hospira's request for such material pursuant to **Section 3.2** of this Agreement, the Certificate of Analysis shall also include specifications on such material for each criterion listed in ***Exhibit B*** hereto, which specifications shall meet or exceed the Specifications.

(b) Hospira may test and inspect the Captisol after receipt and either accept or reject it. Captisol may be rejected if it does not comply with the Specifications or is otherwise defective. Hospira will be deemed to have accepted the Captisol, except as to latent defects which are not reasonably discoverable, if Hospira fails to give notice of rejection within **[***]** after receipt by Hospira of such Captisol. The written notice of rejection shall be given to CyDex and shall include identification of the lot number and description of the Specification failure or other defect.

(c) Following receipt of written notice of rejection of a particular lot of Captisol, in addition to any other rights or remedies Hospira may have under this Agreement, in equity, or at law, CyDex shall, at Hospira's option, provide a credit, refund or prompt replacement of Captisol to Hospira; provided, however, that if CyDex does not agree with Hospira's claim of noncompliance with Specifications or other defect, then the parties shall designate a mutually acceptable Third Party laboratory to make a determination on such matter from a sample obtained from the batch or other quantity shipped to Hospira. The decision of the Third Party laboratory shall be binding on all parties hereto and all expenses related to such Third Party investigation shall be borne by the party found to have been mistaken. Should such Third Party laboratory confirm Hospira's claim, CyDex shall, at Hospira's request, promptly provide Hospira with a credit, refund or prompt replacement of Captisol to Hospira.

(d) Hospira shall return any rejected Captisol to CyDex at CyDex's expense to an address that CyDex may designate within **[***]** of CyDex receiving written notice of rejection; provided, however, that if CyDex does not agree with Hospira's claim of noncompliance with Specifications or other defect, Hospira shall not be obligated to return the rejected Captisol to CyDex until **[***]** after a final determination is made by a Third Party laboratory that such Captisol does not comply with Specifications or is otherwise defective as provided in subparagraph (c) above. Absent such designation of address, Hospira will ship rejected Captisol to CyDex's facility at **[***]**, or such other address as CyDex may previously have given written notice of to Hospira as being the default address for return of rejected Captisol. All freight, insurance and other costs of such shipment along with any risk of loss shall be borne by CyDex, and shipment will be made from Hospira's designated plant.

(e) Hospira's rights of rejection, return, refund and replacement set forth in this **Section 3.7** shall not apply to any Captisol that is non-conforming due to damage that occurs after delivery of such Captisol to Hospira's carrier at the point of origin that is caused by Hospira, any of its Affiliates' or their respective employees or agents' negligence or willful misconduct, including but not limited to, misuse, neglect, improper storage, transportation or use beyond any dating provided.

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17.8 Quality Agreement. The parties shall on the Effective Date enter into a separate Quality Agreement, in the form attached hereto as ***Exhibit D***. The parties shall comply with the terms of the Quality Agreement, and any breach of the Quality Agreement shall be deemed a breach of this Agreement.

17.9 Quality Assurance. Each lot of Captisol to be supplied to Hospira hereunder shall be subject to a quality assurance inspection by CyDex in accordance with CyDex's then current quality assurance standards and the Quality Agreement, which standards shall be designed to ensure that the Captisol meets the requirements of the Specifications and is manufactured per Good Manufacturing Practices.

17.10 Process Change Provisions and Procedure.

(a) General. To the extent pertaining to Captisol to be delivered pursuant to this Agreement, all modifications, changes, additions or deletions to the (i) Specifications; (ii) changes in the expiration period for Captisol; (iii) composition or source of any raw material for Captisol; (iv) method of producing, processing or testing Captisol; (v) change in subcontractors for producing, processing or testing Captisol; or (vi) site of manufacture for Captisol, which CyDex intends to carry out must be evaluated and documented by CyDex. **[***]**, CyDex shall if so required amend its DMF/CEP through the appropriate notification to the FDA and any other applicable Regulatory Authorities. **[***]**.

(b) Required Changes. Any changes relating to the Specifications or manufacturing processes for Captisol hereunder that are required by any applicable laws or other Regulatory Authority requirements in any Major Market, or by medical concerns related to the toxicity, safety and/or efficacy of Captisol shall hereinafter be referred to as "**Required Changes**". The parties shall cooperate in making such changes promptly.

(c) Costs of Changes. **[***]**.

17.11 Pricing.

(a) The purchase price for the Product shall be as set forth in ***Exhibit E*** and shall be paid in U.S. dollars.

(b) If, at any time during the Term, Hospira has the good faith opportunity to purchase, from an alternative supplier which satisfies Hospira's quality, terms and delivery standards, any amount of **[***]** that Hospira may be required to purchase under this Agreement at a price that is less than the price Hospira is then paying for Captisol under this Agreement, **[***]**.

17.12 Invoicing; Payment. Simultaneously with the shipment of any particular lot of Captisol to Hospira, CyDex shall send an invoice to Hospira covering such Captisol. Hospira shall pay the invoice within **[***]** after receipt of such lot of Captisol.

18. LICENSE AND EXCLUSIVITY COMPENSATION.

18.1 Payments; Extension of Exclusivity Period.

(a) Upfront License Fee and Prepayment. Hospira shall within **[***]** after the Effective Date (and in any event, before December 30, 2011) pay to CyDex a non-refundable upfront license fee of $500,000, in consideration of the rights granted Hospira under this Agreement. In addition, Hospira shall within **[***]** after the Effective Date (and in any event, before December 30,

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2011) pay to CyDex $2,500,000 by wire transfer as a one-time materials purchase prepayment usable only as a cumulative $2,500,000 credit toward future purchases of Captisol hereunder. Such credit shall be applied to the first $2,500,000 of Captisol purchased hereunder, until exhausted. In the event that this Agreement is terminated, then to the extent so provided in **Section 11.4** CyDex shall immediately make a payment to Hospira in the amount of any such remaining prepayment credit.

(b) Extension of Exclusivity Period. To retain the benefits of having the Exclusivity Period remain in force for additional time, Hospira shall have the option to extend one or more times the expiration date of the Exclusivity Period. Not more than **[***]** before and not less than **[***]** before the Exclusivity Period would otherwise expire (taking into account any previous proper extension or extensions of the Exclusivity Period pursuant to this **Section 4.1(b)**), CyDex shall deliver to Hospira written notice that the Exclusivity Period is set to expire. Hospira may, in its sole discretion, extend the Exclusivity Period by making a non-refundable payment, by wire transfer, of $**[***]** to CyDex within **[***]** after the receipt of CyDex's notice. Each such extension shall extend the erstwhile expiration date of the Exclusivity Period for **[***]** beyond when it would otherwise have expired. For avoidance of doubt: (i) such option to extend can be exercised in compliance with this **Section 4.1(b)** multiple times, but no extension can extend the Exclusivity Period beyond the end of the Term, (ii) if CyDex does not provide notice to Hospira at least **[***]** before the end of the then current term of the Exclusivity Period, the Exclusivity Period will automatically extend for **[***]** after Hospira's receipt of any such notice and Hospira shall have the right to further extend the Exclusivity Period as set forth above by making the required payment within **[***]** after receipt of CyDex's notice, and (iii) the Exclusivity Period cannot be resuscitated after it has expired or terminated.

(c) [***].

	[***]	**[***]**
(i)	**[***]**	**$[***]**
(ii)	**[***]**	**$[***]**

(d) Rationale of Payment Structure. **[***]**.

18.2 Currency. All amounts due hereunder are stated in, and shall be paid in, U.S. dollars. Net Sales based on foreign revenue will be converted to U.S. dollars at the mean average rate of exchange published in **[***]**.

18.3 Taxes. All amounts due hereunder exclude all applicable sales, use, and other taxes and duties, and Hospira will be responsible for payment of all such taxes (other than taxes based on CyDex's income), arising from the payment of amounts due under this Agreement. The parties agree to cooperate with one another and use reasonable efforts to avoid or reduce tax withholding or similar obligations in respect of payments made by Hospira to CyDex under this Agreement. To the extent Hospira is required to deduct and withhold taxes on any payment to CyDex, Hospira shall pay the amounts of such taxes to the proper governmental authority in a timely manner and promptly transmit to CyDex official receipts issued by the appropriate taxing authority and/or an official tax certificate, or such other evidence as CyDex may reasonably request, to establish that such taxes have been paid. CyDex shall provide Hospira any tax forms that may be reasonably necessary in order for Hospira to not withhold tax or to withhold tax at a reduced rate under an applicable bilateral income tax treaty. CyDex shall use reasonable efforts to provide any such tax forms to Hospira at least **[***]** before the due date for any payment for which CyDex desires that Hospira apply a reduced withholding rate. Each party shall provide the other with reasonable assistance to enable the recovery, as permitted by applicable law, of withholding taxes, value added taxes, or similar obligations resulting from payments made under this Agreement, such recovery to be for the benefit of the party bearing such withholding tax or value added tax.

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19. RECORDS; AUDIT.

19.1 Records and Reports.

(a) Records. **During the Term and for a period of** [***], Hospira shall, and shall require its Affiliates to, maintain accurate records relating to Net Sales of the Finished Product. [***].

(b) Reports. **[***]** during the Term, Hospira shall provide CyDex with written a report that identifies whether each respective **Section 4.1(c)** milestone has been achieved.

19.2 Audit. Upon reasonable prior notice, such **Section 5.1** records shall be available during regular business hours for examination and audit at the expense of CyDex by an independent certified public accountant selected by CyDex and reasonably acceptable to Hospira, for the sole purpose of verifying Net Sales. CyDex shall **[***]**. Such records may not be audited more often than **[***]** and the records for any period may not be audited more than once. During any audit, the scope of such audit shall only include, with respect to those items of deduction for which Hospira, under its then-current system, calculates using a fixed allocation system, a review of actual allocated deductions thereunder unless and until such time as Hospira has changed its system to reflect actual deductions for such category of deductions. In the event that Hospira begins tracking actual costs and deductions on a product by product basis generally (which it has no obligation to do hereunder), Hospira will implement such actual tracking for purposes of this Agreement in lieu of fixed allocation percentages and the calculation of such actual costs and deductions shall thereafter become subject to audit pursuant to this **Section 5.2**. All information learned in the course of any audit or inspection under this **Section 5.2** shall be deemed to be Confidential Information of Hospira, subject to the terms and provisions of **Section 7** below.

20. REGULATORY MATTERS.

20.1 Captisol Information Submitted for Regulatory Review. Except as otherwise set forth herein, Hospira shall be solely responsible for all communications with Regulatory Authorities in connection with the Finished Product.

20.2 Material Safety. CyDex shall provide Hospira, in writing, from time to time, with (a) relevant material information currently known to it regarding handling precautions, toxicity and hazards with respect to Captisol, and (b) the then-current material safety data sheet for Captisol. Hospira is solely responsible for (i) any Finished Product regulatory submission to the FDA or any other Regulatory Authority, and (ii) determining the suitability of any documentation provided by CyDex hereunder for use in any such regulatory submission.

20.3 Adverse Event Reporting. Hospira shall adhere, and shall require that its Affiliates, Sublicensees, co-marketers and distributors adhere, to all requirements of applicable law and regulations that relate to the reporting and investigation of any adverse event, including without limitation an unfavorable and unintended diagnosis, symptom, sign (including an abnormal laboratory finding), syndrome or disease, whether or not considered Captisol or Finished Product-related, which occurs or worsens following administration of Captisol or Finished Product. Hospira shall provide CyDex with copies of all reports of any such adverse event which is serious (any such adverse event involving Captisol or the Finished Product that results in death, is life-threatening, requires or prolongs inpatient hospitalization, results in disability, congenital anomaly or is medically important (i.e., may require other

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medical or surgical intervention to prevent other serious criteria from occurring)) which Hospira has reason to believe are associated with Captisol within **[***]** following (i) Hospira's submission of any such report to any Regulatory Authority, or (ii) receipt from Hospira's Sublicensee, co-marketer or distributor of any such report to any Regulatory Authority. Hospira shall also advise CyDex regarding any proposed labeling or registration dossier changes affecting Captisol. Reports from Hospira shall be delivered to the attention of Chief Scientific Officer, CyDex, with a copy to General Counsel, Ligand, at the address set forth in **Section 12.6**. The parties shall mutually cooperate with regard to investigation of any such serious adverse event associated with Captisol, whether experienced by Hospira, CyDex or any other Affiliate, Sublicensee, co-marketer or distributor of CyDex or Hospira. This Section 6.3 applies both before the First Commercial Sale (e.g., without limitation, in respect of use of the Finished Product in clinical studies) and after the First Commercial Sale.

20.4 Product Recalls. If any Captisol should be alleged or proven not to meet the Specifications, Hospira shall notify CyDex promptly, and both parties shall cooperate fully regarding the investigation and disposition of any such matter. If (i) Hospira decides to recall any Finished Product, or (ii) any Regulatory Authority requires the recall of any Finished Product, then **[***]**. Hospira shall in all events be responsible for conducting any such recalls with respect to the Finished Product and shall maintain records of all sales of Finished Product and customers sufficient to adequately administer any such recall, for a period of five years after expiration or termination of this Agreement.

20.5 Retention Samples. CyDex is responsible for storing and maintaining retention samples of each lot of Captisol shipped to Hospira in accordance with Good Manufacturing Practices.

20.6 Stability. CyDex shall be responsible for the testing and generation of stability data for Captisol in accordance with the Captisol DMF/CEP.

20.7 Validation. CyDex shall be responsible to ensure that all facilities, utilities, equipment and the processes utilized to manufacture Captisol delivered or to be delivered hereunder are satisfactorily validated according to all applicable Major-Market Regulatory Authorities guidelines.

20.8 Batch Records. Records which include the information relating to the manufacturing, packaging and quality operations for each lot of Captisol delivered or to be delivered hereunder shall be prepared by CyDex for each lot at the time such operations occur. Such records shall be prepared in accordance with Good Manufacturing Practices and any similar laws or regulations of applicable Major-Market Regulatory Authorities and CyDex's standard operating procedures. These documents for each lot may be reviewed by Hospira at CyDex's and each of its subcontractors' site of manufacturing of the Captisol upon Hospira giving CyDex **[***]** written notice of its intent to review such documents; provided, however, that in the event of any regulatory or quality issues relating to the Captisol, Hospira shall be permitted to review such documents as soon as practicable after giving notice to CyDex of its intent to do so. CyDex shall keep batch records for each lot of Captisol for the period of time required by any and all applicable statutes, ordinances and regulations of Major-Market Regulatory Authorities, including without limitation, the Act and the regulations promulgated by the FDA.

20.9 Inspection Rights. CyDex hereby grants to Hospira the right to inspect the manufacturing operations for Captisol delivered or to be delivered hereunder at CyDex's and any of its subcontractors' facilities, provided that Hospira provides CyDex with at least **[***]** of its intent to inspect such manufacturing operations. **[***]**.

20.10 Regulatory Visits and Inspections. CyDex shall and shall cause its subcontractors to permit the FDA and any other Major-Market national, supra-national and United States Regulatory Authorities to perform routine inspections of its and any of its subcontractors' facilities which contains

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the manufacturing operations for Captisol delivered or to be delivered hereunder and shall immediately notify Hospira of any such regulatory inspection and the results thereof that affect the manufacturing process of Captisol delivered or to be delivered hereunder or may have an effect on CyDex's ability to supply Captisol to Hospira. Should any issues arise in the course of such inspection, CyDex and Hospira shall consult with each other in resolving such issues.

20.11 Regulatory Clearance. Hospira shall be responsible for submitting and subsequently obtaining approval from any Regulatory Authority for marketing the Finished Products. CyDex shall provide reasonable amounts of assistance and cooperation with Hospira toward obtaining such approval. Such assistance and cooperation shall include, but not be limited to, pre-approval inspections, technical assistance, etc. CyDex shall also file DMF/CEPs in all Major-Market countries and any other countries in the Territory reasonably requested by Hospira, each such filing to be at CyDex's cost.

20.12 Regulatory Correspondence. CyDex shall deliver to Hospira all copies of correspondence after the Effective Date between CyDex and any Regulatory Authorities that concern Captisol. CyDex shall deliver such correspondence to Hospira within **[***]** of distributing or receiving such correspondence, as the case may be. CyDex may redact such correspondence to delete the name of any of its other customers or other customers' products or any Third Party's Intellectual Property or proprietary information that is not included in the CyDex Intellectual Property.

20.13 Access to Drug Master Files. CyDex hereby grants Hospira reference rights to all DMF/CEPs necessary to support Hospira's applications for marketing authorizations of Finished Products (but not for any other purpose). To effect this, CyDex shall execute certain documentation ("**Authorization Letters**") which shall be delivered to the appropriate Regulatory Authorities permitting such Regulatory Authorities to consult CyDex's DMF/CEPs in their review of Hospira's Finished Products marketing applications. CyDex shall send copies of such Authorization Letters to Hospira. CyDex shall provide Hospira appropriate copies of the Open/Applicant's part of the DMF/CEP to use for Hospira's Finished Products Regulatory Filings.

21. CONFIDENTIALITY.

21.1 Definition. Hospira and CyDex each recognizes that, during the Term, it may be necessary for a party (the "**Disclosing Party**") to provide Confidential Information (as defined herein) to the other party (the "**Receiving Party**") that is highly valuable, the disclosure of which would be highly prejudicial to such party. The disclosure and use of Confidential Information will be governed by the provisions of this **Section 7**. Neither Hospira nor CyDex shall use the other's Confidential Information except as expressly permitted in this Agreement. For purposes of this Agreement, "**Confidential Information**" means all information disclosed by the Disclosing Party to the Receiving Party in any form whatsoever, including but not limited to product specifications, data, know-how, formulations, product concepts, sample materials, business and technical information, financial data, batch records, trade secrets, processes, techniques, algorithms, programs, designs, drawings, and any other information related to a party's present or future products, sales, suppliers, customers, employees, investors or business. Without limiting the generality of the foregoing, CyDex's Confidential Information includes all materials provided as part of the Captisol Data Package.

21.2 Obligation. CyDex and Hospira agree that they will disclose the other's Confidential Information to its (or its respective Affiliates') own officers, employees, consultants and agents only if and to the extent reasonably necessary to carry out their respective responsibilities under this Agreement or in accordance with the exercise of their rights under this Agreement, and such disclosure shall be limited to the extent reasonably possible consistent with such responsibilities and rights. Except as provided in the previous sentence, neither party shall disclose Confidential Information of the other to

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any Third Party without the other's prior written consent. Any disclosure to a Third Party shall be pursuant to the terms of a non-disclosure agreement substantially similar to the requirements of this **Section 7**. The party which disclosed Confidential Information of the other to any Third Party shall be responsible and liable for any disclosure or use by such Third Party (or its disclosees) which would have violated this Agreement if committed by the party itself. Neither party shall use Confidential Information of the other except as expressly allowed by and for the purposes of this Agreement. Each party shall take such action to preserve the confidentiality of each other's Confidential Information as it would customarily take to preserve the confidentiality of its own Confidential Information (but in no event less than a reasonable standard of care). Unless otherwise specified in this Agreement and subject to terms and conditions in this Agreement, if so requested by the other party a party shall promptly return all relevant records and materials in its possession or control containing or embodying the other party's Confidential Information (including all copies and extracts of documents); provided, however, that each party may retain one archival copy (and such electronic copies that exist as part of the party's computer systems, network storage systems and electronic backup systems) of such records and materials solely to be able to monitor its obligations that survive under this Agreement.

21.3 Exceptions. The use and non-disclosure obligations set forth in this **Section 7** shall not apply to any Confidential Information, or portion thereof, that the Receiving Party can demonstrate by appropriate documentation:

(a) at the time of disclosure is in the public domain;

(b) after disclosure, becomes part of the public domain, by publication or otherwise, through no fault of the Receiving Party or its disclosees;

(c) is independently developed by Receiving Party personnel with no reference or access to the Confidential Information; or

(d) is made available to the Receiving Party by an independent third party without obligation of confidentiality, provided, however, that to the Receiving Party's knowledge, such information was not obtained by said third party, directly or indirectly, from the Disclosing Party hereunder.

In addition, the Receiving Party may disclose information to a court or ADR forum in the process of seeking to enforce through such court or ADR forum its own rights under this Agreement, and also may disclose information that is required to be disclosed by law, by a valid order of a court or by order or regulation of a governmental agency including but not limited to, regulations of the Securities and Exchange Commission, or in the course of litigation, *provided* that in all cases the Receiving Party shall give the other party prompt notice of the pending disclosure and make a reasonable effort to obtain, or to assist the Disclosing Party in obtaining, a protective order or confidential-treatment order preventing or limiting (to the greatest possible extent and for the longest possible period) the disclosure and/or requiring that the Confidential Information so disclosed be used only for the purposes for which the law or regulation required, or for which the order was issued.

21.4 Injunction. Each party agrees that should it breach or threaten to breach any provisions of this **Section 7**, the Disclosing Party will suffer irreparable damages and its remedy at law will be inadequate. Upon any breach or threatened breach by the Receiving Party of this **Section 7**, the Disclosing Party shall be entitled to seek from any court of competent jurisdiction temporary, preliminary and/or permanent injunctive relief in addition to any other remedy which it may have, without need to post any bond or security, in addition to any and all other legal and equitable rights and remedies available to the Disclosing Party.

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21.5 Public Announcements. If a press release is required by law or the applicable rules of a national securities exchange to be issued upon execution of this Agreement or reasonably soon thereafter, the parties will mutually agree on such a press release. Neither party shall make any subsequent public announcement concerning this Agreement or the terms hereof not previously made public without the prior written approval of the other party with regard to the form, content, and precise timing of such announcement, except as may be required to be made by either party in order to comply with applicable law, regulations, court orders, or tax or securities filings. Such consent shall not be unreasonably withheld or delayed by such other party. Before any such public announcement, the party wishing to make the announcement will submit a draft of the proposed announcement to the other party in sufficient time to enable such other party to consider and comment thereon. The parties agree that a party may disclose this Agreement's existence and terms, and material developments or material information generated under this Agreement, in (i) securities filings with the Securities and Exchange Commission (or equivalent foreign agency) to the extent required by law, or (ii) under conditions of confidentiality/nonuse in connection with investment and similar corporate transactions. Notwithstanding the above, once a public announcement has been made, either party shall be free to disclose to third parties any information contained in said public announcement.

21.6 [***].

22. REPRESENTATIONS AND WARRANTIES.

22.1 Mutual Representations and Warranties. Each party represents and warrants to the other (as of the Effective Date) as follows:

(a) it is a corporation duly organized and validly existing under the laws of the state or country of its incorporation;

(b) it has the complete and unrestricted power and right to enter into this Agreement and to perform its obligations hereunder;

(c) this Agreement has been duly authorized, executed and delivered by such party and constitutes a legal, valid and binding obligation of such party enforceable against such party in accordance with its terms except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, receivership, moratorium, fraudulent transfer, or other similar laws affecting the rights and remedies of creditors generally and by general principles of equity;

(d) the execution, delivery and performance of this Agreement by such party does not conflict with any agreement, instrument or understanding, oral or written, to which such party is a party or by which such party may be bound, nor violate any law or regulation of any court, governmental body or administrative or other agency having authority over such party; without limiting the warranties in this Section,

(e) all consents, approvals and authorizations from all governmental authorities or other third parties required to be obtained by such party in connection with the execution and delivery of this Agreement have been obtained;

(f) no person or entity has or will have, as a result of the transactions contemplated by this Agreement, any right, interest or valid claim against or upon such party for any commission, fee or other compensation as a finder or broker because of any act by such party or its agents; and

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(g) it has not entered into any agreement with any Third Party that is in conflict with the rights granted to the other party pursuant to this Agreement;

(h) there are no suits, claims, or proceedings pending, or to its best knowledge and belief, after due inquiry, threatened against it or any of its Affiliates in any court or by or before any governmental body or agency which would affect its ability to perform its obligations under this Agreement.

22.2 Captisol Warranties. CyDex warrants that the Captisol delivered hereunder shall:

(a) at the time of delivery and until the applicable Captisol expiration date be in compliance with and meet any and all specifications as set out in the DMF/CEP as referenced in the Regulatory Filings and Regulatory Approvals and in compliance with Good Manufacturing Practices.

(b) at the time of delivery and until the applicable Captisol expiration date be free from defects in materials and manufacture and shall continue to conform to the Specifications.

(c) have been manufactured in accordance with the DMF/CEP and in accordance with all applicable statutes, ordinances and regulations of the FDA and any other then applicable Major-Market national, supra-national and United States Regulatory Authorities, including without limitation, the Act and Good Manufacturing Practices.

(d) not, when delivered, be adulterated or misbranded within the meaning of the Act or any similar laws or regulations of applicable Major-Market national, supra-national and United States Regulatory Authorities or be an article which may not, under provisions of any applicable Major-Market national, supra-national or United States law, be sold by CyDex to Hospira.

(e) at the time of delivery have at least **[***]**% of its original shelf life.

(f) at the time of delivery be free and clear of all liens, claims, charges and encumbrances and that CyDex shall have title to the Captisol.

22.3 [***]

22.4 Reference Standard Warranty. CyDex further warrants that any reference standard material delivered to Hospira pursuant to this Agreement shall meet the specifications outlined in the applicable Certificate of Analysis provided pursuant to **Section 3.7**.

22.5 [***]

22.6 No Debarred Service Providers. CyDex represents and warrants that to neither CyDex, nor any of its Affiliates, employees or agents working on Hospira's behalf, has ever been, is currently, or is the subject of a proceeding that could lead to that party becoming, as applicable, a Debarred Entity or Individual. CyDex further covenants, represents and warrants that if, during the Term of this Agreement, it, or any of its Affiliates, employees or agents working on Hospira's behalf, becomes or is the subject of any FDA investigation or debarment proceeding that could lead to that party becoming, as applicable, a Debarred Entity or Individual, CyDex shall immediately notify Hospira, and Hospira shall have the right to immediately terminate this Agreement. This provision shall survive termination or expiration of this Agreement. For purposes of this provision, the following definitions shall apply:

(a) A "**Debarred Individual**" is an individual who has been debarred by the FDA pursuant to 21 U.S.C. §335a (a) or (b) from providing services in any capacity to a person that has an approved or pending drug Captisol application.

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(b) A "**Debarred Entity**" is a corporation, partnership or association that has been debarred by the FDA pursuant to 21 U.S.C. §335a (a) or (b) from submitting or assisting in the submission of any abbreviated drug application, or a subsidiary or Affiliate of a Debarred Entity.

22.7 No-Conflict by CyDex. CyDex also represents and warrants that the execution, delivery and performance of this Agreement does not conflict with any of the **[***]**; and that CyDex has the right to grant Hospira the licenses set forth herein to all CyDex Intellectual Property, including, without limitation, the Licensed Patents.

22.8 Disclaimer. THE WARRANTIES SET FORTH IN THIS **SECTION 8** ARE PROVIDED IN LIEU OF, AND EACH PARTY HEREBY DISCLAIMS, ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT, CAPTISOL, THE LICENSED PATENTS OR THE CAPTISOL DATA PACKAGE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS.

23. INDEMNIFICATION; INSURANCE; LIMITATION OF LIABILITY.

23.1 General Indemnification by CyDex. CyDex shall defend, indemnify and hold Hospira and its Affiliates and Sublicensees, and each of their respective directors, officers, agents and employees, harmless from and against any and all losses, judgments, damages, liabilities, settlements, penalties, fines, costs and expenses (including the reasonable costs and expenses of attorneys and other professionals) (collectively "**Losses**") incurred as a result of any claim, demand, action or other proceeding (each, a "**Claim**") by a Third Party, to the extent such Losses arise out of: (a) the manufacture, use, handling, promotion, marketing, distribution, importation, sale or offering for sale of Captisol by CyDex, its Affiliates or any of their agents, or (b) CyDex's breach of this Agreement, including without limitation any of its representations and warranties set forth in **Section 8**, or (c) any negligent or willful misconduct by CyDex or its Affiliates or any of their respective distributors, officers, directors employees or agents, in each case to the extent that such Losses are not due to Hospira's or any of its Affiliates' or Sublicensees', or any of their respective directors', officers', agents' or employees' breach of this Agreement or negligence or willful misconduct.

23.2 General Indemnification by Hospira. Hospira shall defend, indemnify and hold CyDex and its Affiliates, and each of their respective directors, officers, agents and employees, harmless from and against any and all Losses incurred as a result of any Claim by a Third Party, to the extent such Losses arise out of: (a) the manufacture, use, handling, promotion, marketing, distribution, importation, sale or offering for sale of the Finished Product by Hospira, its Affiliates and Sublicensees, or (b) Hospira's breach of this Agreement, including without limitation any of its representations and warranties set forth in **Section 8**, or (c) any negligent or willful misconduct by Hospira or its Affiliates or any of their respective distributors, officers, directors employees or agents, in each case to the extent that such Losses are not due to CyDex's or any of its Affiliates' or any of their respective directors', officers', agents' or employees' breach of this Agreement or negligence or willful misconduct.

23.3 [***]

23.4 Procedure.

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(a) The person intending to claim indemnification under **Section 9** (an "**Indemnified Party**") shall promptly notify the other party (the "**Indemnifying Party**") of any Claim in respect of which the Indemnified Party intends to claim such indemnification, and a reasonable explanation of the basis for the Claim and the amount of alleged Losses to the extent of the facts then known by the Indemnified Party. (Notwithstanding the foregoing, no delay or deficiency on the part of the Indemnified Party in so notifying the Indemnifying Party will relieve the Indemnifying Party of any liability or obligation under this Agreement except to the extent the Indemnifying Party has suffered actual prejudice directly caused by the delay or other deficiency.) The Indemnifying Party shall assume the defense thereof; provided, however, that if the Indemnifying Party assumes the defense, the Indemnified Party shall have the right to employ counsel separate from counsel employed by the Indemnifying Party in any such action and to participate in the defense thereof, but the fees and expenses of such counsel employed by the Indemnified Party shall be at the sole cost and expense of the Indemnified Party unless the Indemnifying Party consents to the retention of such counsel or unless the named parties to any action or proceeding include both the Indemnifying Party and the Indemnified Party and a representation of both the Indemnifying Party and the Indemnified Party by the same counsel would be inappropriate due to the actual or potential differing interests between them. And provided further that, if the Indemnifying Party shall fail to assume the defense of and reasonably defend such Claim, the Indemnified Party shall have the right to retain or assume control of such defense and the Indemnifying Party shall pay (as incurred and on demand) the fees and expenses of counsel retained by the Indemnified Party.

(b) The Indemnifying Party shall not be liable for the indemnification of any Claim settled (or resolved by consent to the entry of judgment) without the written consent of the Indemnifying Party (which shall not be unreasonably withheld or delayed). Also, if the Indemnifying Party shall control the defense of any such Claim, the Indemnifying Party shall have the right to settle such Claim; provided, that the Indemnifying Party shall obtain the prior written consent (which shall not be unreasonably withheld or delayed) of the Indemnified Party before entering into any settlement of (or resolving by consent to the entry of judgment upon) such Claim unless (A) there is no finding or admission of any violation of law or any violation of the rights of any Third Party by an Indemnified Party, no requirement that the Indemnified Party admit fault or culpability, and no adverse effect on any other claims that may be made by or against the Indemnified Party and (B) the sole relief provided is monetary damages that are paid in full by the Indemnifying Party and such settlement does not require the Indemnified Party to take (or refrain from taking) any action.

(c) Regardless of who controls the defense, the other party hereto shall reasonably cooperate in the defense as may be requested. Without limitation, the Indemnified Party, and its directors, officers, advisers, agents and employees, shall reasonably cooperate with the Indemnifying Party and its legal representatives in the investigations of any Claim.

23.5 Insurance. CyDex will procure and maintain, at its own expense, for the duration of the Agreement, and for **[***]** thereafter if written on a claims made or occurrence reported form, the types of insurance specified below with carriers rated **[***]**. Best or like rating agencies:

a. Workers' Compensation accordance with applicable statutory requirements and shall provide a waiver of subrogation in favor of Hospira;

b. Employer's Liability with a limit of liability in an amount of not less than $**[***]**;

c. Commercial General Liability including premises operations, products & completed operations, blanket contractual liability, personal injury including fire legal liability for bodily injury and property damage in an amount not less than $**[***]**;

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d. Commercial Automobile Liability for owned, hired and non-owned motor vehicles with a combined single limit in an amount not less than $**[***]**;

e. Excess Liability including product liability with a combined single limit in an amount of not less than $**[***]**;

f. Commercial Crime or Fidelity Bond in an amount of not less than $**[***]** including an endorsement for Third Party liability without the requirement of a conviction.

g. Cargo Legal Liability insurance covering all risks of physical loss or damage to cargo handled by CyDex. The limit of liability shall not be less than $**[***]**.

Hospira and its Affiliates, and their respective directors, officers, employees and agents shall be additional insureds with respect to Commercial General Liability, Commercial Automobile Liability and Excess Liability. Prior to shipment of any Captisol to Hospira, and annually thereafter, CyDex shall furnish Hospira with certificates of insurance evidencing the insurance coverages stated above and shall require at least **[***]** days written notice to Hospira prior to any cancellation, non-renewal or material change in said coverage. In the case of cancellation, non-renewal or material change in said coverage, CyDex shall promptly provide Hospira with a new certificate of insurance evidencing that the coverage meets the requirements in this Section. CyDex agrees that its insurance shall act as primary and noncontributory from any other valid and collectible insurance maintained by Hospira.

23.6 Limitation of Liability. EXCEPT FOR (1) PERSONAL INJURY, INCLUDING DEATH, (2) TANGIBLE PROPERTY DAMAGE, (3) EACH PARTY'S INDEMNIFICATION OBLIGATIONS, (4) DAMAGES ARISING OUT OF AN INTENTIONAL BREACH OF THE CONFIDENTIALITY OBLIGATIONS HEREIN, (5) DAMAGES ARISING OUT OF CYDEX'S BREACH OF **SECTION 2.4,** AND (6) DAMAGES FOR WHICH CYDEX IS RESPONSIBLE PURSUANT **SECTION 3.6, 3.7** OR **6.4, [***]**.

24. MANAGEMENT OF LICENSED PATENTS.

24.1 Patent Prosecution, Maintenance and Enforcement.

(a) Information and Communication. CyDex shall be responsible for the prosecution and maintenance of Licensed Patents in the Territory and shall keep Hospira reasonably informed as to all material matters concerning the prosecution and maintenance of Licensed Patents in the Territory by making itself available for periodic meetings to update Hospira regarding such matters.

(b) Prosecution and Maintenance. **[***]**, CyDex shall give prompt advance written notice thereof to Hospira, whereupon Hospira, in addition to any other rights and remedies Hospira may have under this Agreement, in equity, or at law, shall have the right in its sole discretion, but not the duty, **[***]**; and if Hospira does so, then Hospira shall be entitled to offset any costs incurred as a result of **[***]** or paying such necessary **[***]** against any payments that may thereafter become owing from Hospira to CyDex under this Agreement.

(c) [***].

(d) [***].

(e) [***].

(f) [***].

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25. TERM AND TERMINATION.

25.1 Term. The term of this Agreement (the "**Term**") shall commence on the Effective Date and shall (unless earlier terminated as set forth herein) continue in effect until the eighth anniversary of the First Commercial Sale in the United States; provided that if Hospira has not given CyDex written notice of nonrenewal of this Agreement at least six months before the eighth anniversary of the First Commercial Sale in the United States, this Agreement shall (subject to any termination as set forth herein) automatically renew for an additional one year period, and for additional one year periods thereafter (each a "**Renewal Term**") unless Hospira has given CyDex written notice of nonrenewal of this Agreement at least six months before the last day of the current Renewal Term. The Renewal Term(s) shall be deemed to be within the Term.

25.2 Termination for Breach.

(a) Notice. If either party believes that the other is in material breach of this Agreement, then the party holding such belief (the **"Non-breaching Party"**) may deliver notice of such breach to the other party (the **"Notified Party"**). The Notified Party shall have 30 days to cure such breach to the extent involving non-payment of amounts due hereunder, and 60 days to either cure such breach for all other material breaches, or, if cure of such breach other than non-payment cannot reasonably be effected within such 60 day period, to deliver to the Non-breaching Party a plan reasonably calculated to cure such breach within a timeframe that is reasonably prompt in light of the circumstances then prevailing but in no event in excess of an additional 60 day period. Following delivery of such a plan, the Notified Party shall diligently carry out the plan and cure the breach and the cure period shall be extended by the time period provided in such plan but in no event to exceed 120 days from the date of any initial breach notice delivered under this **Section 11.2**.

(b) Failure to Cure. If the Notified Party fails to cure a material breach of this Agreement as provided for in **Section 11.2**, then the Non-breaching Party may terminate this Agreement upon written notice to the Notified Party.

25.3 Other Termination. This Agreement may also be terminated by:

(a) [***].

(b) [***].

(c) [***].

(d) [***].

(e) [***].

25.4 [***].

25.5 Nonexclusive Rights and Remedies. Termination is not an election of remedies. Except as otherwise specifically provided herein, all rights and remedies of the parties provided under this Agreement are not exclusive and are in addition to any other rights and remedies provided by law, in equity or under this Agreement. Termination of this Agreement shall not relieve either party of any liability which has accrued prior to the effective date of such termination, nor prejudice either party's right to obtain performance of any obligation provided for in this Agreement, which by its express terms or context survives termination. Upon termination or expiration of this Agreement, all covenants and agreements contained in this Agreement which, by their terms or context, are intended to survive will continue in full force and effect for a period of **[***]** unless a different time period is indicated.

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26. General Provisions.

26.1 Relationship of Parties. Each of the parties hereto is an independent contractor and nothing in this Agreement is intended or shall be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the parties. No party shall have the right to, and each party agrees not to purport to, incur any debts or make any commitments or contracts for the other.

26.2 Compliance with Law. Each of the parties shall comply with all applicable international, federal, state and local laws, rules and regulations, including, but not limited to, import/export restrictions, laws, rules and regulations governing product quality and safety and patent, copyright and trade secret protection.

26.3 Arbitration.

(a) Procedure. The parties recognize that bona fide disputes may arise which relate to the parties' rights and obligations under this Agreement. The parties agree that except as provided in **Section 7.4**, any such dispute shall be resolved by alternative dispute resolution in accordance with the procedure set forth in ***Exhibit F***.

(b) Confidentiality of Proceedings. All arbitration proceedings hereunder shall be confidential and the arbitrator(s) shall issue appropriate protective orders to safeguard each party's Confidential Information. Except as required by law, no party shall make (or instruct the arbitrator(s) to make) any public announcement with respect to the proceedings or decision of the arbitrator(s) without prior written consent of the other party.

(c) Binding Effect. The provisions of this **Section 12.3** shall survive any expiration or termination of this Agreement, and shall be severable and binding on the parties hereto, notwithstanding that any other provision of this Agreement may be held or declared to be invalid, illegal or unenforceable.

26.4 Costs and Expenses. Except as otherwise expressly provided in this Agreement, each party shall bear **[***]**.

26.5 Force Majeure. Neither party shall be liable for failure to perform, or delay in the performance of, its obligations under this Agreement (other than payment obligations) when such failure or delay is caused by an event of force majeure. For purposes of this Agreement, an event of force majeure means any event or circumstance beyond the reasonable control of the affected party, including but not limited to, war, insurrection, riot, fire, flood or other unusual weather condition, explosion, act of God, peril of the sea, strike, lockout or other industrial disturbance, sabotage, embargo, act of governmental authority, compliance with governmental order or national defense requirements, or inability to obtain fuel, power, raw materials, labor or transportation facilities. A failure of supply by CyDex's supplier shall only be deemed an event of force majeure affecting CyDex if caused by a force majeure event affecting such supplier. If, due to any event of force majeure, either party shall be unable to fulfill its obligations under this Agreement (other than payment obligations), the affected party shall immediately notify the other party of such inability and of the period during which such inability is expected to continue and the time for performance **[***]**.

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26.6 Notices. Any notice, request, or communication under this Agreement shall be effective only if it is in writing and personally delivered; sent by certified mail, postage pre-paid; facsimile with receipt confirmed; or by nationally recognized overnight courier with signature required, addressed to the parties at the addresses stated below or such other persons and/or addresses as shall be furnished in writing by any party in accordance with this **Section 12.6**. Unless otherwise provided, all notices shall be sent:

If to CyDex, to:

CyDex Pharmaceuticals, Inc.
10513 W. 84th Terrace
Lenexa, KS 66214
Attention: President
Fax: (913) 685-8856

With a copy to:
General Counsel
Ligand Pharmaceuticals Incorporated
11085 North Torrey Pines Road
Suite 300
La Jolla, CA 92037
Fax: 858-550-7272

If to Hospira, to:

Hospira, Inc.
275 N. Field Drive
Lake Forest, IL 60045
USA
Attn: Director of Purchasing
Telephone: 224-212-2613
Facsimile: 224-212-2840

With a copy to:

Hospira, Inc.
275 N. Field Drive
Lake Forest, IL 60045
Attn: General Counsel
Telephone: 224-212-2851
Facsimile: 224-212-2088

If sent by facsimile transmission, **[***]** shall be deemed to be the date on which such notice, request or communication was given. If sent by overnight courier, **[***]** after the date of deposit with such courier shall be deemed to be the date on which such notice, request or communication was given. If sent by certified mail, the **[***]** after the date of mailing shall be deemed the date on which such notice, request or communication was given.

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12.8 **Use of Name; Publicity**. No party shall use the name, trademark, trade name or logo of the other party, its Affiliates or their respective employee(s) in any publicity, promotion, news release or public disclosure relating to this Agreement or its subject matter, without the prior express written permission of the other party, except as may be required by law or the rules of NASDAQ or the New York Stock Exchange. In the event of a required public announcement, the party making such announcement shall provide the other party with a copy of the proposed text before such announcement sufficiently in advance of the scheduled release of such announcement to afford such other party a reasonable opportunity to review and comment upon the proposed text and the timing of such disclosure.

12.9 **Governing Law**. This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York (without giving effect to any conflicts of law principles that require the application of the law of a different state). The United Nations Convention on the International Sale of Goods is hereby expressly excluded.

12.10 **Entire Agreement; Amendment**. This Agreement, together with the Quality Agreement, constitutes the entire agreement of the parties relating to the subject matter hereof and thereof and supersedes any and all prior or contemporaneous agreements, written or oral, between CyDex (and/or any of its Affiliates) and Hospira (and/or any of its Affiliates) relating to the subject matter hereof and thereof; provided, that any confidentiality/nonuse provisions of any prior agreement are not superseded and will remain in effect solely with respect to information provided under the terms of such prior agreement that is not subsequently provided to a Party under the terms of this Agreement. If the Quality Agreement contains terms or conditions inconsistent with the terms of this Agreement, the terms of the Quality Agreement will control and prevail solely with respect to quality issues, and the terms of this Agreement shall control and prevail for all other matters. This Agreement can not be amended except by way of an express writing signed by both parties.

12.11 **Binding Effect**. This Agreement shall be binding upon, and the rights and obligations hereof shall apply to, CyDex and Hospira and any successor(s) and permitted assigns. The name of a party appearing herein shall be deemed to include the names of such party’s successors and permitted assigns to the extent necessary to carry out the intent of this Agreement.

12.12 **Waiver**. The rights of either party under this Agreement may be exercised from time to time, singularly or in combination, and the exercise of one or more such rights shall not be deemed to be a waiver of any one or more of the others. No waiver of any breach of a term, provision or condition of this Agreement shall be deemed to have been made by either party unless such waiver is addressed in writing and signed by an authorized representative of that party. The failure of either party to insist upon the strict performance of any of the terms, provisions or conditions of this Agreement, or to exercise any option contained in this Agreement, shall not be construed as a waiver or relinquishment for the future of any such term, provision, condition or option or the waiver or relinquishment of any other term, provision, condition or option.

12.13 **Severability**. If any provision of this Agreement is determined by a final and binding court or arbitration judgment to be invalid, illegal or unenforceable to any extent, such provision shall not be not affected or impaired up to the limits of such invalidity, illegality or unenforceability; the validity, legality and enforceability of the remaining provisions of this Agreement shall not be affected or impaired in any way; and the parties agree to negotiate in good faith to replace such invalid, illegal and unenforceable provision (or portion of provision) with a valid, legal and enforceable provision that achieves, to the greatest lawful extent under this Agreement, the economic, business and other purposes of such invalid, illegal or unenforceable provision (or portion of provision).

12.14 **Assignment**. Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party; provided, however, that either party may assign this Agreement, in whole or in part, without such consent, to an Affiliate of such party or to any Third Party successor by merger or acquisition or by divestiture or spin-off of substantially all of the business to which this Agreement relates, upon written notice to the other party of any such assignment and, in the case of an assignment to an Affiliate, such party hereby guarantees the performance of any such Affiliate, and, in the case of a Third Party assignment, such Third Party shall assume the obligations of the assigning party under this Agreement. No assignment shall relieve any party of responsibility for the performance of any obligation, which such party may have or incur hereunder.

12.15 **Third Party Beneficiaries**. The terms and provisions of this Agreement are intended solely for the benefit of each party hereto and their respective Affiliates, related Indemnified Parties (as set forth in **Section 9**), successors or permitted assigns and it is not the intention of the parties to confer third-party beneficiary rights upon any other person, including without limitation Sublicensees.

12.17 **Headings**. The descriptive headings of this Agreement are for convenience only, and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement.

12.18 **Interpretation**. The language used in this Agreement is the language chosen by the parties to express their mutual intent, and no provision of this Agreement will be interpreted for or against any party because that party or its attorney drafted the provision.

12.19 **Counterparts**. This Agreement may be executed in counterparts, each of which shall constitute an original document, but both of which shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed this License and Supply Agreement as of the Effective Date.

CYDEX PHARMACEUTICALS, INC.

By: /s/ Matthew W. Foehr

Name: Matthew W. Foehr

Title: COO

HOSPIRA, INC.

By: /s/ Leonard J. Decant

Name: Leonard J. Decant for Sumant Ramachandra

Title: VP Consumables R&D

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EXHIBIT A: LICENSED PATENTS

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EXHIBIT B: SPECIFICATIONS

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EXHIBIT C: LICENSES UNDER WHICH HOSPIRA IS GRANTED A SUB-LICENSE

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EXHIBIT D: QUALITY AGREEMENT

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EXHIBIT E: PURCHASE PRICES FOR CAPTISOL

CLINICAL GRADE CAPTISOL: $[***].

COMMERCIAL GRADE CAPTISOL: $[***]

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EXHIBIT F: ALTERNATIVE DISPUTE RESOLUTION

The parties recognize that bona fide disputes as to certain matters may arise from time to time during the term of this Agreement which relate to either party's rights and/or obligations. To have such a dispute resolved by this Alternative Dispute Resolution ("ADR") provision, a party **[***]**.

If the matter has not been resolved within **[***]**, either party may initiate an ADR proceeding as provided herein. The parties shall have the right to be represented by counsel in such a proceeding.

1. To begin an ADR proceeding, a party shall provide written notice to the other party of the issues to be resolved by ADR. Within **[***]** after its receipt of such notice, the other party may, by written notice to the party initiating the ADR, add additional issues to be resolved within the same ADR.

2. Within **[***]** days following receipt of the original ADR notice, the parties shall select a mutually acceptable neutral to preside in the resolution of any disputes in this ADR proceeding. If the parties are unable to agree on a mutually acceptable neutral within such period, either party may request the President of the CPR Institute for Dispute Resolution ("CPR"), 366 Madison Avenue, 14th Floor, New York, New York 10017, to select a neutral pursuant to the following procedures:

(a) The CPR shall submit to the parties a list of not less than **[***]** within **[***]** after receipt of the request, along with a Curriculum Vita for each candidate. No candidate shall be an employee, director, or shareholder of either party or any of their subsidiaries or Affiliates.

(b) Such list shall include a statement of disclosure by each candidate of any circumstances likely to affect his or her impartiality.

(c) Each party shall number the candidates in order of preference (with the number one (1) signifying the greatest preference) and shall deliver the list to the CPR within **[***]** following receipt of the list of candidates. If a party believes a conflict of interest exists regarding any of the candidates, that party shall provide a written explanation of the conflict to the CPR along with its list showing its order of preference for the candidates. Any party failing to return a list of preferences on time shall be deemed to have no order of preference.

(d) If the parties collectively have identified fewer than **[***]** deemed to have conflicts, the CPR immediately shall designate as the neutral the candidate for whom the parties collectively have indicated the greatest preference. If a tie should result between **[***]**, the CPR may designate either candidate by lot. If the parties collectively have identified **[***]** or more candidates deemed to have conflicts, the CPR shall review the explanations regarding conflicts and, in its sole discretion, may either (i) immediately designate as the neutral the candidate for whom the parties collectively have indicated the greatest preference, or (ii) issue a new list of not less than **[***]**, in which case the procedures set forth in subparagraphs 2(a)-2(d) shall be repeated.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

3. No earlier than **[***]** or later than **[***]** after selection, the neutral shall hold a hearing to resolve each of the issues identified by the parties. The ADR proceeding shall take place at a location agreed upon by the parties. If the parties cannot agree, the neutral shall designate a location other than the principal place of business of either party or any of their subsidiaries or Affiliates.

4. At least **[***]** prior to the hearing, each party shall submit the following to the other party and the neutral:

(a) a copy of all exhibits on which such party intends to rely in any oral or written presentation to the neutral;

(b) a list of any witnesses such party intends to call at the hearing, and a short summary of the anticipated testimony of each witness;

(c) a proposed ruling on each issue to be resolved, together with a request for a specific damage award or other remedy for each issue. The proposed rulings and remedies shall not contain any recitation of the facts or any legal arguments and shall not exceed one (1) page per issue.

(d) a brief in support of such party's proposed rulings and remedies, provided that the brief shall not exceed thirty (30) pages. This page limitation shall apply regardless of the number of issues raised in the ADR proceeding.

Except as expressly set forth in subparagraphs 4(a)-4(d), no discovery shall be required or permitted by any means, including depositions, interrogatories, requests for admissions, or production of documents.

5. The hearing shall be conducted on consecutive days and shall be governed by the following rules:

(a) Each party shall be entitled to **[***]** of hearing time to present its case. The neutral shall determine whether each party has had the **[***]** to which it is entitled.

(b) Each party shall be entitled, but not required, to make an opening statement, to present regular and rebuttal testimony, documents or other evidence, to cross-examine witnesses, and to make a closing argument. Cross-examination of witnesses shall occur immediately after their direct testimony, and cross-examination time shall be charged against the party conducting the cross-examination.

(c) The party initiating the ADR shall begin the hearing and, if it chooses to make an opening statement, shall address not only issues it raised but also any issues raised by the responding party. The responding party, if it chooses to make an opening statement, also shall address all issues raised in the ADR. Thereafter, the presentation of regular and rebuttal testimony and documents, other evidence, and closing arguments shall proceed in the same sequence.

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(d) Except when testifying, witnesses shall be excluded from the hearing until closing arguments.

(e) Settlement negotiations, including any statements made therein, shall not be admissible under any circumstances. Affidavits prepared for purposes of the ADR hearing also shall not be admissible. As to all other matters, the neutral shall have sole discretion regarding the admissibility of any evidence.

6. Within **[***]** following completion of the hearing, each party may submit to the other party and the neutral a post-hearing brief in support of its proposed rulings and remedies, provided that such brief shall not contain or discuss any new evidence and shall not exceed thirty (30) pages. This page limitation shall apply regardless of the number of issues raised in the ADR proceeding.

7. The neutral shall rule on each disputed issue within **[***]** following completion of the hearing. Such ruling shall adopt in its entirety the proposed ruling and remedy of one of the parties on each disputed issue but may adopt one party's proposed rulings and remedies on some issues and the other party's proposed rulings and remedies on other issues. The neutral shall not issue any written opinion or otherwise explain the basis of the ruling.

8. The neutral shall be paid **[***]**:

(a) If the neutral rules in favor of one party on all disputed issues in the ADR, the losing party shall pay **[***]**.

(b) If the neutral rules in favor of one party on some issues and the other party on other issues, the neutral shall issue with the rulings a written determination as to how such fees and expenses shall be allocated between the parties. **[***]**.

9. The rulings of the neutral and the allocation of fees and expenses shall be binding, non-reviewable, and non-appealable, and may be entered as a final judgment in any court having jurisdiction.

10. Except as provided in paragraph 9 or as required by law, the existence of the dispute, any settlement negotiations, the ADR hearing, any submissions (including exhibits, testimony, proposed rulings, and briefs), and the rulings shall be deemed Confidential Information. The neutral shall have the authority to impose sanctions for unauthorized disclosure of Confidential Information.

11. **[***].**

12. The hearings shall be conducted in the English language.

*** Certain information on this page has been omitted and filed separately with the Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit 10.134

FOURTH AMENDMENT
TO LOAN AND SECURITY AGREEMENT

This Fourth Amendment to Loan and Security Agreement (this "**Amendment**") is entered into as of January 23, 2012, by and among OXFORD FINANCE LLC ("**Oxford**"), in its capacity as collateral agent on behalf of the Lenders (the "**Collateral Agent**"); the Lenders including Oxford in its capacity as a Lender (each a "**Lender**" and collectively, the "**Lenders**"); and LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation, whose address is 11085 N. Torrey Pines Road, Suite 300, La Jolla, CA 92037, and the additional Persons signing this Amendment as Borrowers (individually, a "**Borrower**", and collectively, the "**Borrowers**").

RECITALS

A. Collateral Agent, Lenders and Borrowers have entered into that certain Loan and Security Agreement dated as of January 24, 2011 (as amended by that certain First Amendment to Loan and Security Agreement dated April 29, 2011, that certain Joinder and Second Amendment to Loan and Security Agreement dated as of October 28, 2011 and that certain Third Amendment to Loan and Security Agreement dated as of November 23, 2011; as the same may from time to time be further amended, modified, supplemented or restated, collectively, the "**Loan Agreement**").

B. Lenders extended credit to Borrowers for the purposes permitted in the Loan Agreement.

C. Borrowers have requested that Collateral Agent and Lenders amend the Loan Agreement to make certain revisions to the Loan Agreement as more fully set forth herein.

D. Collateral Agent and Lenders have agreed to amend certain provisions of the Loan Agreement, but only to the extent, in accordance with the terms, subject to the conditions and in reliance upon the representations and warranties set forth below.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

1. Definitions. Except as set forth herein, capitalized terms used but not defined in this Amendment shall have the meanings given to them in the Loan Agreement.

2. Amendments to Loan Agreement.

2.1 Section 2.2(a) (Term Loan; Availability). Section 2.2(a) of the Loan Agreement hereby is amended and restated in its entirety to read as follows:

"(a) **Availability**. On or about January 24, 2011, Lenders made a term loan (the "Term A Loan") to Borrowers in an aggregate amount of Twenty Million Dollars ($20,000,000). Subject to the terms and conditions of this Agreement, Lenders agree, severally and not jointly, to make another term loan to Borrowers, on the Fourth Amendment Effective Date, in an aggregate amount up to Seven Million Five Hundred Thousand Dollars ($7,500,000) (the "Term B Loan") according to each Lender's Term Loan Commitment as set forth on Schedule 1.1 hereto. Subject to the terms and

conditions of this Agreement, Lenders agree, severally and not jointly, to (if and when so requested by Borrowers during the Term C Draw Period) make another term loan to Borrowers, during the Term C Draw Period, in an aggregate amount up to Two Million Five Hundred Thousand Dollars ($2,500,000) (the "Term C Loan" and, collectively with the Term A Loan and the Term B Loan, the "Term Loan") according to each Lender's Term Loan Commitment as set forth on Schedule 1.1 hereto. After repayment, the Term Loan may not be re-borrowed."

2.2 Section 2.2(b) (Term Loan; Repayment). Section 2.2(b) of the Loan Agreement hereby is amended and restated in its entirety to read as follows:

"(b) **Repayment**. Borrowers shall make monthly payments of interest only on the outstanding principal balance of the Term Loan, commencing on the first (1st) Payment Date following the Funding Date of the Term Loan, and continuing on the Payment Date of each successive month thereafter through and including the Payment Date immediately preceding the Amortization Date. The Amortization Date is March 1, 2013. Commencing on the Amortization Date, and continuing on the Payment Date of each month thereafter, Borrowers shall make consecutive equal monthly payments of principal and interest, in arrears, to each Lender, as calculated by Collateral Agent (as set forth in the Amortization Table; which calculations shall be deemed correct absent manifest error) based upon: (1) the amount of such Lender's Term Loan, (2) the effective rate of interest, as determined in Section 2.3(a), and (3) a repayment schedule equal to eighteen (18) months from the Amortization Date. All unpaid principal and accrued and unpaid interest with respect to the Term Loan is due and payable in full on the Maturity Date. The Term Loan may only be prepaid in accordance with Sections 2.2(c) and 2.2(d)."

2.3 Section 12.1 (Successors and Assigns). The following sentence hereby is added to the end of Section 12.1, to read as follows:

"Notwithstanding anything to the contrary contained herein, so long as no Event of Default has occurred and is continuing, no Lender Transfer (other than a Lender Transfer (i) in respect of any warrants or (ii) in connection with (x) assignments by a Lender due to a forced divestiture at the request of any regulatory agency; or (y) a Lender's own financing or securitization transactions and upon the occurrence of a default, Event of Default or similar occurrence with respect to such financing or securitization transaction) shall be permitted to any Person if such person is an Affiliate or Subsidiary of a Borrower, a direct competitor of a Borrower or a vulture hedge fund, each as determined by Collateral Agent, without Borrowers' consent."

2.4 Section 14.1 (Definitions). The following terms and their respective definitions hereby are added to or amended in Section 14.1 of the Loan Agreement as follows:

"**Amortization Table**" means the amortization table(s) attached to the Secured Promissory Note(s).

"**Basic Rate**" means (x) with respect to the Term A Loan, the per annum rate of interest (based on a year of 360 days) equal to the greater of (a) 8.63% per annum and (b) the sum of (i) 8.34% plus (ii) the 3-month LIBOR rate reported in The Wall Street Journal three (3) Business Days prior to the Funding Date of the Term A Loan; and (y) with respect to the Term B Loan and the Term C Loan, the per annum rate of interest (based on a year of 360 days) equal to the greater of (a) 8.81% per annum and (b) the sum of (i) 8.34% plus (ii) the 3-month LIBOR rate reported in The Wall Street Journal three (3) Business Days prior to the Funding Date of the Term B Loan or the Term C Loan, as applicable.

"**Fourth Amendment Effective Date**" means January 23, 2012.

"**Term A Loan**" has the meaning assigned in Section 2.2(a).

"**Term B Loan**" has the meaning assigned in Section 2.2(a).

"**Term C Draw Period**" means the period from the Fourth Amendment Effective Date through the earlier of an Event of Default and April 30, 2012.

"**Term C Loan**" has the meaning assigned in Section 2.2(a).

2.5 Schedule 1.1 attached to the Loan Agreement hereby is deleted and replaced in its entirety with Schedule 1.1 attached hereto.

3. Representations and Warranties. To induce Collateral Agent and Lenders to enter into this Amendment, each Borrower hereby represents and warrants to Collateral Agent and Lenders as follows:

3.1 Immediately after giving effect to this Amendment (a) the representations and warranties contained in the Loan Documents are true, accurate and complete in all material respects as of the date hereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct as of such date), and (b) no Event of Default has occurred and is continuing;

3.2 Borrower has the power and due authority to execute and deliver this Amendment and to perform its obligations under the Loan Agreement, as amended by this Amendment;

3.3 The organizational documents of Borrower delivered to Collateral Agent on the Effective Date remain true, accurate and complete and have not been amended, supplemented or restated and are and continue to be in full force and effect;

3.4 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not and will not contravene (a) any law or regulation binding on or affecting Borrower, (b) any contractual restriction with a Person binding on Borrower, (c) any order, judgment or decree of any court or other governmental or public body or authority, or subdivision thereof, binding on Borrower, or (d) the organizational documents of Borrower;

3.5 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not require any order, consent, approval, license, authorization or validation of, or filing, recording or registration with, or exemption by any governmental or public body or authority, or subdivision thereof, binding on Borrower, except as already has been obtained or made; and

3.6 This Amendment has been duly executed and delivered by Borrower and is the binding obligation of Borrower, enforceable against Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

4. Integration. This Amendment and the Loan Documents represent the entire agreement about this subject matter and supersede prior negotiations or agreements. All prior agreements, understandings, representations, warranties, and negotiations between or among the parties about the subject matter of the Loan Documents merge into this Amendment and the Loan Documents.

5. Prior Agreement. The Loan Documents are hereby ratified and reaffirmed and shall remain in full force and effect. This Amendment is not a novation and the terms and conditions of this Amendment shall be in addition to and supplemental to all terms and conditions set forth in the Loan Documents. In the event of any conflict or inconsistency between this Amendment and the terms of such documents, the terms of this Amendment shall be controlling, but such document shall not otherwise be affected or the rights therein impaired. The amendment set forth in Section 2 above, is effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term of condition of any Loan Document, or (b) otherwise prejudice any right or remedy which Lenders or Collateral Agent may now have or may have in the future under or in connection with any Loan Document.

6. Counterparts. This Amendment may be executed in any number of counterparts and all of such counterparts taken together shall be deemed to constitute one and the same instrument.

7. Effectiveness. This Amendment shall be deemed effective upon (i) the due execution and delivery to Collateral Agent of (a) this Amendment by each party hereto; (b) a Loan Payment/Advance Request Form, substantially in the form of Annex I attached hereto; (ii) the due execution and delivery to Oxford of Secured Promissory Notes dated as of the Fourth Amendment Date substantially in the form of Annex II attached hereto, in form and substance satisfactory to Oxford; (iii) receipt by Collateral Agent of (v) the original share certificate(s) owned by Ligand Pharmaceuticals Incorporated in CyDex Pharmaceuticals, Inc., and duly executed (in blank) Stock Powers with respect thereto; (w) a facility fee in the amount of Seventy Five Thousand Dollars ($75,000), receipt of which hereby is acknowledged; (x) Perfection Certificates duly executed by each of Ligand Pharmaceuticals Incorporated and CyDex Pharmaceuticals, Inc.; (y) duly executed landlord waivers and bailee agreements, in form and content reasonably acceptable to Collateral Agent, with respect to each of Borrowers' leased locations and each third-party location where any Borrower maintains Collateral; and (z) duly executed Control Agreements with respect to each Collateral Account maintained by any Borrower; and (iv) Borrowers' payment of all Lenders' Expenses incurred through the date of this Amendment, which may be debited (or ACH'd) from any of a Borrower's bank accounts.

8. Governing Law. This Amendment and the rights and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of California without regard for conflicts of laws principles.

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IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered as of the date first written above.

BORROWERS

LIGAND PHARMACEUTICALS INCORPORATED

By /s/ John P. Sharp
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

SERAGEN, INC.

By /s/ John P. Sharp
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

METABASIS THERAPEUTICS, INC.

By /s/ John P. Sharp
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

PHARMACOPEIA, LLC

By: Ligand Pharmaceuticals Incorporated,
Its Sole and Managing Member

By /s/ John P. Sharp
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

NEUROGEN CORPORATION

By /s/ John P. Sharp
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

ALLERGAN LIGAND RETINOID THERAPEUTICS, INC.

By /s/ John P. Sharp
Name: John P. Sharp
Title: Chief Financial Officer

[*Signature Page to Fourth Amendment to Loan and Security Agreement*]
[*Signatures Continued Next Page*]

LIGAND JVR, INC.

By /s/ John P. Sharp
Name: John P. Sharp
Title: Chief Financial Officer

CYDEX PHARMACEUTICALS, INC.

By /s/ John P. Sharp
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

COLLATERAL AGENT AND LENDER:

OXFORD FINANCE LLC

By /s/ Mark A. Davis
Name: Mark A. Davis
Title: Vice President-Finance, Secretary & Treasurer

[*Signature page to Fourth Amendment to Loan and Security Agreement*]

SCHEDULE 1.1

LENDERS AND COMMITMENTS

Term A Loan

Lender	Term Loan Commitment	Commitment Percentage
Oxford Finance LLC	$ 20,000,000.00	100.00%
TOTAL	**$ 20,000,000.00**	**100.00%**

Term B Loan

Lender	Term Loan Commitment	Commitment Percentage
Oxford Finance LLC	$ 7,500,000.00	100.00%
TOTAL	**$ 7,500,000.00**	**100.00%**

Term C Loan

Lender	Term Loan Commitment	Commitment Percentage
Oxford Finance LLC	$ 2,500,000.00	100.00%
TOTAL	**$ 2,500,000.00**	**100.00%**

Aggregate

Lender	Term Loan Commitment	Commitment Percentage
Oxford Finance LLC	$ 30,000,000.00	100.00%
TOTAL	**$ 30,000,000.00**	**100.00%**

ANNEX I

Loan Payment/Advance Request Form

DISBURSEMENT LETTER

January 23, 2012

The undersigned, being the duly elected and acting Vice President, Finance and Chief Financial Officer of LIGAND PHARMACEUTICALS INCORPORATED ("**Borrower**"), certifies on behalf of all Borrowers to OXFORD FINANCE LLC ("**Oxford**" and "**Lender**"), as collateral agent (the "**Collateral Agent**") in connection with that certain Loan and Security Agreement dated January 24, 2011 by and between Borrowers and Oxford, as a Lender and Collateral Agent (as amended from time to time, including by that certain Fourth Amendment to Loan and Security Agreement (the "**Fourth Amendment**") dated as of even date herewith, the "Loan Agreement"; with other capitalized terms used below having the meanings ascribed thereto in the Loan Agreement) that:

1. The representations and warranties made by each Borrower in Section 5 of the Loan Agreement and in the other Loan Documents are true and correct in all material respects as of the date hereof.

2. No event or condition has occurred that would constitute an Event of Default under the Loan Agreement or any other Loan Document.

3. Borrowers are in compliance with the covenants and requirements contained in Sections 4, 6 and 7 of the Loan Agreement.

4. All conditions referred to in Section 3 of the Loan Agreement to the making of the Term B Loan to be made on or about the date hereof have been satisfied or waived by Collateral Agent.

5. All conditions referred to in Section 7 of the Fourth Amendment to the making of the Term B Loan to be made on or about the date hereof have been satisfied or waived by Collateral Agent.

6. No Material Adverse Change has occurred.

7. The undersigned is a Responsible Officer.

8. The proceeds of the Term B Loan shall be disbursed as follows:

Disbursement from Oxford:	
Loan Amount	$ 7,500,000
Plus:	
—Deposit Received	$ 75,000
Less:	
—Lender's Legal Fee	($35,000)*
—Facility Fee	($75,000)
Net Proceeds due from Oxford:	($7,465,000)

* Legal fees and costs are through the Fourth Amendment Effective Date. Post-closing legal fees and costs, payable after the Fourth Amendment Effective Date, to be invoiced and paid post-closing.

[***Balance of Page Intentionally Left Blank***]

9. The aggregate net proceeds of the Term B Loan shall be transferred to Borrower's account as follows:

Account Name:	Ligand Pharmaceuticals
Bank Name:	Comerica Bank
Bank Address:	333 W. Santa Clara St., San Jose, CA 95113
Account Number:	1891502369
ABA Number:	121137522

[***Balance of Page Intentionally Left Blank***]

Dated as of the date first set forth above.
BORROWER:

LIGAND PHARMACEUTICALS INCORPORATED

By ______
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

AS COLLATERAL AGENT AND AS A LENDER:

OXFORD FINANCE LLC

By ______
Name: ______
Title ______

[*Signature Page to Loan Payment/Advance Request Form; Disbursement Letter*]

ANNEX II
FORM OF SECURED PROMISSORY NOTE

SECURED PROMISSORY NOTE

$4,000,000 January 23, 2012

FOR VALUE RECEIVED, LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation, and each of the other Persons signing below as a Borrower (individually, a "**Borrower**" and, collectively, the "**Borrowers**") jointly and severally PROMISE TO PAY to the order of **OXFORD FINANCE LLC** ("**Lender**") the principal amount of FOUR MILLION DOLLARS ($4,000,000) or such lesser amount as shall equal the outstanding principal balance of the Term B Loan made to Borrowers by Lender, plus interest on the aggregate unpaid principal amount of Term B Loan, at the rates and in accordance with the terms of the Loan and Security Agreement dated as of January 24, 2011 by and among Borrowers, Oxford Finance LLC, as Collateral Agent and as a Lender, and Lenders from time to time party thereto (as amended, restated, supplemented or otherwise modified from time to time, the "**Loan Agreement**"). If not sooner paid, the entire principal amount and all accrued and unpaid interest hereunder shall be due and payable on the Maturity Date as set forth in the Loan Agreement. Any capitalized term not otherwise defined herein shall have the meaning attributed to such term in the Loan Agreement.

Borrowers agree to pay any initial partial monthly interest payment from the date the Term B Loan is made to Borrowers under this Secured Promissory Note (this "**Note**") to the first Payment Date ("**Interim Interest**") on the first Payment Date.

Principal, interest and all other amounts due with respect to the Term B Loan, are payable in lawful money of the United States of America to Lender as set forth in the Loan Agreement and this Note. The principal amount of this Note and the interest rate applicable thereto, and all payments made with respect thereto, shall be recorded by Lender and, prior to any transfer hereof, endorsed on the grid attached hereto which is part of this Note.

The Loan Agreement, among other things, (a) provides for the making of a secured Term Loan by Lender to Borrowers, and (b) contains provisions for acceleration of the maturity hereof upon the happening of certain stated events.

This Note may not be prepaid except as set forth in Section 2.2 (c) and Section 2.2(d) of the Loan Agreement.

This Note and the obligation of Borrowers to repay the unpaid principal amount of the Term B Loan, interest on the Term B Loan and all other amounts due Lender under the Loan Agreement is secured under the Loan Agreement.

Presentment for payment, demand, notice of protest and all other demands and notices of any kind in connection with the execution, delivery, performance and enforcement of this Note are hereby waived.

Borrowers shall pay all reasonable fees and expenses, including, without limitation, reasonable attorneys' fees and costs, incurred by Lender in the enforcement or attempt to enforce any of a Borrower's obligations hereunder not performed when due.

This Note shall be governed by, and construed and interpreted in accordance with, the internal laws of the State of California.

The ownership of an interest in this Note shall be registered on a record of ownership maintained by Lender or its agent. Notwithstanding anything else in this Note to the contrary, the right to the principal of, and stated interest on, this Note may be transferred only if the transfer is registered on such record of ownership and the transferee is identified as the owner of an interest in the obligation. Borrowers shall be entitled to treat the registered holder of this Note (as recorded on such record of ownership) as the owner in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim to or interest in this Note on the part of any other person or entity. Unless and until Lender notifies Borrowers in writing that such a registered transfer has occurred and that it is so recorded on the record of ownership, Borrowers shall be entitled to act as if there has been no such transfer and no such recordation on the record of ownership.

IN WITNESS WHEREOF, Borrowers have caused this Note to be duly executed by one of its officers thereunto duly authorized on the date hereof.

LIGAND PHARMACEUTICALS INCORPORATED

By ______________________________
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

CYDEX PHARMACEUTICALS, INC.

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

SERAGEN, INC.

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

METABASIS THERAPEUTICS, INC.

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

PHARMACOPEIA, LLC

By: Ligand Pharmaceuticals Incorporated,
Its Sole and Managing Member

By ______________________________
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

NEUROGEN CORPORATION

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

ALLERGAN LIGAND RETINOID THERAPEUTICS, INC.

By ______________________________
Name: John P. Sharp
Title: Chief Financial Officer

LIGAND JVR, INC.

By ______________________________
Name: John P. Sharp
Title: Chief Financial Officer

LOAN INTEREST RATE AND PAYMENTS OF PRINCIPAL

Date	Principal Amount	Interest Rate	Scheduled Payment Amount	Notation By

Amortization Table

(Term B Loan; Note 1)

Attached.

SECURED PROMISSORY NOTE

$3,500,000 January 23, 2012

FOR VALUE RECEIVED, LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation, and each of the other Persons signing below as a Borrower (individually, a "**Borrower**" and, collectively, the "**Borrowers**") jointly and severally PROMISE TO PAY to the order of **OXFORD FINANCE LLC** ("**Lender**") the principal amount of THREE MILLION FIVE HUNDRED THOUSAND DOLLARS ($3,500,000) or such lesser amount as shall equal the outstanding principal balance of the Term B Loan made to Borrowers by Lender, plus interest on the aggregate unpaid principal amount of Term B Loan, at the rates and in accordance with the terms of the Loan and Security Agreement dated as of January 24, 2011 by and among Borrowers, Oxford Finance LLC, as Collateral Agent and as a Lender, and Lenders from time to time party thereto (as amended, restated, supplemented or otherwise modified from time to time, the "**Loan Agreement**"). If not sooner paid, the entire principal amount and all accrued and unpaid interest hereunder shall be due and payable on the Maturity Date as set forth in the Loan Agreement. Any capitalized term not otherwise defined herein shall have the meaning attributed to such term in the Loan Agreement.

Borrowers agree to pay any initial partial monthly interest payment from the date the Term B Loan is made to Borrowers under this Secured Promissory Note (this "**Note**") to the first Payment Date ("**Interim Interest**") on the first Payment Date.

Principal, interest and all other amounts due with respect to the Term B Loan, are payable in lawful money of the United States of America to Lender as set forth in the Loan Agreement and this Note. The principal amount of this Note and the interest rate applicable thereto, and all payments made with respect thereto, shall be recorded by Lender and, prior to any transfer hereof, endorsed on the grid attached hereto which is part of this Note.

The Loan Agreement, among other things, (a) provides for the making of a secured Term Loan by Lender to Borrowers, and (b) contains provisions for acceleration of the maturity hereof upon the happening of certain stated events.

This Note may not be prepaid except as set forth in Section 2.2 (c) and Section 2.2(d) of the Loan Agreement.

This Note and the obligation of Borrowers to repay the unpaid principal amount of the Term B Loan, interest on the Term B Loan and all other amounts due Lender under the Loan Agreement is secured under the Loan Agreement.

Presentment for payment, demand, notice of protest and all other demands and notices of any kind in connection with the execution, delivery, performance and enforcement of this Note are hereby waived.

Borrowers shall pay all reasonable fees and expenses, including, without limitation, reasonable attorneys' fees and costs, incurred by Lender in the enforcement or attempt to enforce any of a Borrower's obligations hereunder not performed when due.

This Note shall be governed by, and construed and interpreted in accordance with, the internal laws of the State of California.

The ownership of an interest in this Note shall be registered on a record of ownership maintained by Lender or its agent. Notwithstanding anything else in this Note to the contrary, the right to the principal of, and stated interest on, this Note may be transferred only if the transfer is registered on such record of ownership and the transferee is identified as the owner of an interest in the obligation. Borrowers shall be entitled to treat the registered holder of this Note (as recorded on such record of ownership) as the owner

in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim to or interest in this Note on the part of any other person or entity. Unless and until Lender notifies Borrowers in writing that such a registered transfer has occurred and that it is so recorded on the record of ownership, Borrowers shall be entitled to act as if there has been no such transfer and no such recordation on the record of ownership.

IN WITNESS WHEREOF, Borrowers have caused this Note to be duly executed by one of its officers thereunto duly authorized on the date hereof.

LIGAND PHARMACEUTICALS INCORPORATED

By ______________________________
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

SERAGEN, INC.

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

METABASIS THERAPEUTICS, INC.

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

PHARMACOPEIA, LLC

By: Ligand Pharmaceuticals Incorporated,
Its Sole and Managing Member

By ______________________________
Name: John P. Sharp
Title: Vice President, Finance and Chief Financial Officer

NEUROGEN CORPORATION

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

ALLERGAN LIGAND RETINOID THERAPEUTICS, INC.

By ______________________________
Name: John P. Sharp
Title: Chief Financial Officer

LIGAND JVR, INC.

By ______________________________
Name: John P. Sharp
Title: Chief Financial Officer

CYDEX PHARMACEUTICALS, INC.

By ______________________________
Name: John P. Sharp
Title: Vice President and Chief Financial Officer

LOAN INTEREST RATE AND PAYMENTS OF PRINCIPAL

Date	Principal Amount	Interest Rate	Scheduled Payment Amount	Notation By

Amortization Table

(Term B Loan; Note 2)

Attached.

Exhibit 21.1

LIGAND PHARMACEUTICALS INCORPORATED
LIST OF SUBSIDIARIES

Name	Jurisdiction of Incorporation
Glycomed Incorporated	California
Allergan Ligand Retinoid Therapeutics, Inc.	Delaware
Ligand Pharmaceuticals International, Inc.	Delaware
Ligand JVR, Inc.	Delaware
Seragen Incorporated	Delaware
Seragen Technology, Inc.	Delaware
Pharmacopeia, LLC	Delaware
Metabasis Therapeutics, Inc.	Delaware
Neurogen Corporation	Delaware
CyDex Pharmaceuticals, Inc.	Delaware

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated February 23, 2012 with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of Ligand Pharmaceuticals Incorporated on Form 10-K for the year ended December 31, 2011. We hereby consent to the incorporation by reference of said reports in the Registration Statements of Ligand Pharmaceuticals, Incorporated on Form S-3 (File No. 333-177338, effective October 26, 2011) and Forms S-8 (File No. 333-160132, effective June 22, 2009 and File No. 333-131029, effective June 18, 2007).

/s/ GRANT THORNTON LLP
San Diego, California
February 23, 2012

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John L. Higgins, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ligand Pharmaceuticals Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such control over financial reporting to be designed under our supervision, 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;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2012

/S/ JOHN L. HIGGINS

John L. Higgins
President, Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 31.2

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES OXLEY-ACT OF 2002**

I, John P. Sharp, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ligand Pharmaceuticals Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such control over financial reporting to be designed under our supervision, 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;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2012

/S/ JOHN P. SHARP

John P. Sharp
Vice President, Finance and Chief Financial Officer
(Principal Financial Officer)

Exhibit 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**

In connection with the accompanying Annual Report on Form 10-K of Ligand Pharmaceuticals Incorporated (the “Company”) for the year ended December 31, 2011, I, John L. Higgins, President, Chief Executive Officer and Director of the Company, hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge and belief, that:

(1) such Annual Report on Form 10-K for the year ended December 31, 2011, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in such Annual Report on Form 10-K for the year ended December 31, 2011, fairly presents, in all material respects, the financial condition and results of operations of the Company.

The foregoing certification is being furnished solely to accompany such Annual Report on Form 10-K for the year ended December 31, 2011, pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Date: February 23, 2012

/S/ JOHN L. HIGGINS

John L. Higgins
President, Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 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

In connection with the accompanying Annual Report on Form 10-K of Ligand Pharmaceuticals Incorporated (the "Company") for the year ended December 31, 2011, I, John P. Sharp, Vice President, Finance and Chief Financial Officer of the Company, hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge and belief, that:

(1) such Annual Report on Form 10-K for the year ended December 31, 2011, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in such Annual Report on Form 10-K for the year ended December 31, 2011, fairly presents, in all material respects, the financial condition and results of operations of the Company.

The foregoing certification is being furnished solely to accompany such Annual Report on Form 10-K for the year ended December 31, 2011, pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Date: February 23, 2012

/S/ JOHN P. SHARP

John P. Sharp
Vice President, Finance and Chief Financial Officer
(Principal Financial Officer)