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

FORM 10-Q

Mark One

☒ **Quarterly Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934**

For the quarterly period ended June 30, 2012 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 Number: 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)	**(I.R.S. Employer Identification No.)**
11119 North Torrey Pines Road La Jolla, CA	**92037**
(Address of principal executive offices)	**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (858) 550-7500

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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions 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 Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of August 8, 2012, the registrant had 19,936,740 shares of common stock outstanding.

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LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

FORM 10-Q

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* No information provided due to inapplicability of item.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

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

	June 30, 2012 (Unaudited)	December 31, 2011
ASSETS		
Current assets:		
Cash and cash equivalents	$ 8,885	$ 7,041
Short-term investments	1,500	10,000
Accounts receivable	817	6,110
Inventory	2,698	1,301
Deferred income taxes	237	237
Other current assets	2,025	1,344
Current portion of co-promote termination payments receivable	4,934	6,197
Total current assets	21,096	32,230
Restricted cash and investments	1,341	1,341
Property and equipment, net	644	455
Intangible assets, net	56,273	57,437
Goodwill	14,894	14,894
Long-term portion of co-promote termination payments receivable	9,822	15,255
Other assets	524	738
Total assets	$ 104,594	$ 122,350
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 6,746	$ 11,065
Accrued liabilities	4,228	5,054
Current portion of liability for contingent value rights	3,739	6,879
Bank line of credit	1,500	10,000
Current portion of note payable	5,806	—
Current portion of co-promote termination liability	4,934	6,197
Current portion of lease exit obligations	3,054	3,208
Current portion of deferred revenue	412	1,240
Total current liabilities	30,419	43,643
Long-term portion of note payable	22,211	20,286
Long-term portion of co-promote termination liability	9,822	15,255
Long-term portion of deferred revenue, net	2,722	3,466
Long-term portion of lease exit obligations	7,355	8,367
Deferred income taxes	2,812	2,522
Long-term portion of liability for contingent value rights	10,413	11,433
Other long-term liabilities	388	388
Total liabilities	86,142	105,360
Commitments and contingencies		
Common stock subject to conditional redemption; 0 and 112,371 shares issued and outstanding at June 30, 2012 and December 31, 2011, respectively	—	8,344
Stockholders' equity		
Common stock, $0.001 par value; 33,333,333 shares authorized; 20,904,962 and 20,682,506 shares issued at June 30, 2012 and December 31, 2011, respectively	21	21
Additional paid-in capital	743,365	732,676
Accumulated other comprehensive income	—	—
Accumulated deficit	(682,654)	(681,771)
Treasury stock, at cost; 1,118,222 shares at June 30, 2012 and December 31, 2011	(42,280)	(42,280)
Total stockholders' equity	18,452	8,646
Total liabilities and stockholders' equity	$ 104,594	$ 122,350

See accompanying notes.

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LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)
(in thousands, except share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2012	2011	2012	2011
Revenues:				
Royalties	$ 2,983	$ 2,172	$ 6,043	$ 4,165
Material sales	1,665	2,984	2,332	4,034
Collaborative research and development and other revenues	1,094	2,307	3,003	3,160
Total revenues	5,742	7,463	11,378	11,359
Operating costs and expenses:				
Cost of sales	435	1,623	590	2,148
Research and development	2,850	3,237	5,668	5,223
General and administrative	3,940	3,855	7,442	7,299
Lease exit and termination costs	247	(16)	173	(168)
Total operating costs and expenses	7,472	8,699	13,873	14,502
Accretion of deferred gain on sale leaseback	—	426	—	851
Loss from operations	(1,730)	(810)	(2,495)	(2,292)
Other income (expense):				
Interest expense, net	(847)	(674)	(1,622)	(1,063)
Decrease (increase) in liability for contingent value rights	(1,153)	679	(389)	(1,057)
Other, net	2	32	256	82
Total other income (expense), net	(1,998)	37	(1,755)	(2,038)
Loss before income taxes	(3,728)	(773)	(4,250)	(4,330)
Income tax benefit (expense)	(338)	(141)	(303)	13,444
Income (loss) from continuing operations	(4,066)	(914)	(4,553)	9,114
Discontinued operations:				
Gain on sale of AVINZA Product Line before income taxes	1,608	—	3,656	—
Gain on sale of Oncology Product Line before income taxes	—	—	—	4
Income tax benefit on discontinued operations	191	—	14	—
Discontinued operations	1,799	—	3,670	4
Net income (loss):	$ (2,267)	$ (914)	$ (883)	$ 9,118
Basic and diluted per share amounts:				
Income (Loss) from continuing operations	$ (0.20)	$ (0.05)	$ (0.23)	$ 0.46
Discontinued operations	0.09	0	0.19	0
Net income (loss)	$ (0.11)	$ (0.05)	$ 0.04	$ 0.46
Weighted average number of common shares-basic	19,749,266	19,650,260	19,728,852	19,623,249
Weighted average number of common shares-diluted	19,749,266	19,650,260	19,728,852	19,637,983

See accompanying notes.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2012	2011	2012	2011
Net income (loss)	$ (2,267)	$ (914)	$(883)	$9,118
Unrealized net loss on available-for-sale securities	—	(5)	—	(31)
Comprehensive income (loss)	$ (2,267)	$ (919)	$(883)	$9,087

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

	Six Months Ended June 30,	
	2012	2011
Operating activities		
Net income (loss)	$ (883)	$ 9,118
Less: gain from discontinued operations	3,670	4
Income (loss) from continuing operations	(4,553)	9,114
Adjustments to reconcile net income (loss) to net cash used in operating activities, including effects of business acquired:		
Non-cash change in estimated fair value of contingent value rights	389	1,057
Accretion of deferred gain on sale leaseback	—	(851)
Depreciation and amortization	1,340	1,349
Non-cash lease costs	—	(135)
Share-based compensation	2,103	1,696
Deferred income taxes	303	(13,590)
Other	221	109
Changes in operating assets and liabilities, net of acquisition:		
Accounts receivable	5,293	1,157
Inventory	(305)	(179)
Other current assets	(683)	4,340
Other long term assets	214	570
Accounts payable and accrued liabilities	(3,651)	(8,918)
Other liabilities	—	(1,636)
Deferred revenue	(1,572)	(1,217)
Net cash used in operating activities of continuing operations	(901)	(7,134)
Net cash used in operating activities of discontinued operations	(200)	—
Net cash used in operating activities	(1,101)	(7,134)
Investing activities		
Acquisition of CyDex, net of cash acquired	—	(32,024)
Payments to CVR holders	(4,549)	—
Purchases of property, equipment and building	(261)	(5)
Proceeds from sale of property, and equipment and building	13	—
Purchases of short-term investments	—	(10,000)
Proceeds from sale of short-term investments	8,500	19,346
Other, net	—	(33)
Net cash provided by (used in) investing activities	3,703	(22,716)
Financing activities		
Proceeds from issuance of debt	7,500	30,000
Repayment of debt	(8,500)	—
Proceeds from issuance of common stock, net	242	—
Share repurchases	—	(55)
Net cash provided by (used in) financing activities	(758)	29,945
Net increase in cash and cash equivalents	1,844	95
Cash and cash equivalents at beginning of period	7,041	3,346
Cash and cash equivalents at end of period	$ 8,885	$ 3,441
Supplemental Disclosure of cash flow information		
Interest paid	1,302	1,093
Taxes paid	15	27

See accompanying notes.

LIGAND PHARMACEUTICALS INCORPORATED
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Basis of Presentation

Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Company" or "Ligand"), is a biotechnology company that focuses on drug discovery and early-stage development and partnering of pharmaceuticals that address critical unmet medical needs or that are more effective and/or safer than existing therapies, more convenient to administer and are cost effective. 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 June 30, 2012, the Company's accumulated deficit was $682.7 million and the Company had negative working capital of $9.3 million. Based on recent product approvals and regulatory developments, as well as management's plans including expense reductions, if necessary, the Company 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 previously acquired, including Pharmacopeia, Inc. ("Pharmacopeia"), Neurogen Corporation ("Neurogen"), Metabasis Therapeutics, Inc. ("Metabasis") and CyDex Pharmaceuticals, Inc. ("CyDex"). Management's plans and efforts may not fully address any significant adverse impact from any or all of these factors and the Company may be required to obtain additional financing, which may not be available at acceptable terms, or at all.

Principles of Consolidation

The condensed 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.

Basis of Presentation

The Company's accompanying unaudited consolidated condensed financial statements as of June 30, 2012 and for the three and six months ended June 30, 2012 and 2011 have been prepared in accordance with accounting principles generally accepted in the United States of America for interim financial information. Accordingly, they do not include all of the information and footnotes required by accounting principles generally accepted in the United States of America for annual financial statements. The Company's consolidated condensed balance sheet at December 31, 2011 has been derived from the audited financial statements at that date, but does not include all of the information and footnotes required by accounting principles generally accepted in the United States of America for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation of the financial position and results of operations of the Company, and its subsidiaries have been included. Operating results for the three and six months ended June 30, 2012 are not necessarily indicative of the results that may be expected for the year ending December 31, 2012. These financial statements should be read in conjunction with the consolidated financial statements and notes therein included in the Company's annual report on Form 10-K for the year ended December 31, 2011.

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 liabilities, at the date of the consolidated financial statements, and the reported amounts of revenue and expenses during the reporting period. The Company's critical accounting policies are those that are both most important to the Company's financial condition and results of operations and require the most difficult, subjective or complex judgments on the part of management in their application, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Because of the uncertainty of factors surrounding the estimates or judgments used in the preparation of the consolidated financial statements, actual results may materially vary from these estimates.

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 three and six months ended June 30, 2012 and for the three months ended June 30, 2011, 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. For the six months ended June 30, 2011, 14,734 common shares are included in the computation of diluted income per share. 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 would be excluded from the computation of diluted loss per share, were 2.0 million and 1.6 million at June 30, 2012 and 2011, respectively.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2012	2011	2012	2011
Net income (loss) from continuing operations	$ (4,066)	$ (914)	$ (4,553)	$ 9,114
Net income from discontinued operations	1,799	—	3,670	4
Net income (loss)	(2,267)	(914)	(883)	9,118
Shares used to compute basic and diluted income per share	19,749,266	19,650,260	19,728,852	19,623,249
Dilutive potential common shares:				
Restricted stock	—	—	—	14,734
Shares used to compute diluted income (loss) per share	19,749,266	19,650,260	19,728,852	19,637,983
Basic and diluted per share amounts:				
Income (loss) from continuing operations	$ (0.20)	$ (0.05)	$ (0.23)	$ 0.46
Income from discontinued operations	0.09	—	0.19	—
Net income (loss)	$ (0.11)	$ (0.05)	$ (0.04)	$ 0.46

Revenue Recognition

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

Material sales revenue 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. If the Company is unable to determine the stand alone value under multiple-element arrangements, revenue is recognized over the period of services or performance. 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 are 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.

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

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 Share-Based Compensation

Share-based compensation expense for awards to employees and non-employee directors is recognized on a straight-line basis over the vesting period until the last tranche vests. Compensation cost for consultant awards is recognized over each separate tranche's vesting period. The following table summarizes share-based compensation expense recorded as components of research and development expenses and general and administrative expenses for the periods indicated (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2012	2011	2012	2011
Share-based compensation expense as a component of:				
Research and Development expenses	$ 523	$ 405	$ 948	$ 512
General and administrative expenses	871	816	1,155	1,178
	$ 1,394	$ 1,221	$ 2,103	$ 1,690

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:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2012	2011	2012	2011
Risk-free interest rate	0.9%	2.4%	1.0%	2.5%
Dividend yield	—	—	—	—
Expected volatility	69%	68%	69%	69%
Expected term	6.3 years	6.1 years	6.3 years	6.1 years
Forfeiture rate	8.0%	9.4%	8.0%-11.2%	9.4%-14.1%

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, management used the historical volatility of the Company's stock price over a period approximating the expected term.

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 securities with a maturity of more than three months are considered short term investments. Restricted cash and investments consist of certificates of deposit held with financial institutions as collateral under a facility lease and third-party service provider arrangement. The following table summarizes the various investment categories at June 30, 2012 and December 31, 2011 (in thousands):

	Cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
June 30, 2012				
Certificates of deposit	$ 1,500	$ —	$ —	$ 1,500
Certificates of deposit - restricted	1,341	—	—	1,341
	$ 2,841	$ —	$ —	$ 2,841
December 31, 2011				
Certificates of deposit	10,000	—	—	10,000
Certificates of deposit - restricted	1,341	—	—	1,341
	$11,341	$ —	$ —	$11,341

Concentrations of Credit Risk

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

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. Except as described above, the Company has not experienced any significant losses on its cash equivalents, short-term investments or restricted investments.

As of June 30, 2012 and December 31, 2011, cash deposits held at financial institutions in excess of FDIC insured amounts of $250,000 were approximately $9.9 million and $13.1 million, respectively.

Accounts receivable from one customer was 37% and 67% of total accounts receivable at June 30, 2012 and December 31, 2011, respectively.

The Company obtains Captisol from a sole-source supplier. If this supplier was 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.

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 included in the balance sheets at June 30, 2012 and December 31, 2011.

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.

Other Current Assets

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

	June 30, 2012	December 31, 2011
Prepaid expenses	$ 848	$ 905
Advanced manufacturing payments	56	312
Other receivables	1,121	127
	$2,025	$ 1,344

Property and Equipment

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

	June 30, 2012	December 31, 2011
Lab and office equipment	$ 4,392	$ 4,110
Leasehold improvements	—	62
Computer equipment and software	1,134	1,054
	5,526	5,226
Less accumulated depreciation and amortization	(4,882)	(4,771)
	$ 644	$ 455

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.

Goodwill and Other Identifiable Intangible Assets

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

	June 30, 2012	December 31, 2011
Acquired in-process research and development	$13,036	$ 13,036
Complete technology	14,643	14,643
Trade name	2,537	2,537
Customer relationships	29,400	29,400
Goodwill	14,894	14,894
	74,510	74,510
Accumulated amortization	(3,343)	(2,179)
	$71,167	$ 72,331

Intangible assets related to 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. Amortization expense of $1.2 million and $1.3 million was recognized for the six months ended June 30, 2012 and 2011, respectively. Estimated amortization expense for the years ending December 31, 2012 through 2016 is $2.3 million per year.

Impairment of Long-Lived Assets

Management reviews long-lived assets for impairment annually or whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets. Fair value for the Company's long-lived assets is determined using the expected cash flows discounted at a rate commensurate with the risk involved. As of June 30, 2012, management does not believe there have been any events or circumstances indicating that the carrying amount of its long-lived assets may not be recoverable.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	June 30, 2012	December 31, 2011
Compensation	$ 682	$ 1,806
Professional fees	576	355
Other	2,970	2,893
	$4,228	$ 5,054

Other Long-Term Liabilities

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

	June 30, 2012	December 31, 2011
Deposits	388	388
	$ 388	$ 388

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 June 30, 2012 and December 31, 2011, the Company had deferred $1.0 million and $1.2 million, respectively, of revenue related to the sale of royalty rights. As of June 30, 2012, $0.4 million is included in current portion of deferred revenue and $0.6 million is included in long-term portion of deferred revenue.

Recently Adopted Accounting Pronouncements

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 ASU was effective for fiscal years beginning after December 15, 2011 for the Company. In 2012, the Company has elected to present comprehensive income in a separate statement.

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.

2. Business Combinations

On January 24, 2011, the Company acquired CyDex Pharmaceuticals, Inc., a specialty pharmaceutical company developing products and licensing its Captisol® technology. Captisol is currently incorporated in six FDA-approved medications and marketed by three of CyDex's licensees: Pfizer, Bristol-Myers Squibb, Onyx Pharmaceuticals, Inc., and Baxter International. In addition, CyDex is supporting drug development efforts with more than 40 companies worldwide.

Under the terms of the agreement, the Company paid $32.0 million to the CyDex shareholders and issued a series of Contingent Value Rights recorded at an initial fair value of $19.2 million. 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 June 30, 2012 was $13.7 million.

The Company paid the CyDex shareholders $4.3 million in January 2012, $3.5 million in July 2012 and may be required to pay up to an additional $6.0 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 Company paid $0.3 million to the CyDex shareholders in March 2012 for 20% of all 2011 CyDex-related revenue in excess of $15 million.

Ligand is required by the CyDex Contingent Value Rights Agreement ("CVR") 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. As of June 30, 2012, the Company estimates it has exceeded this amount.

Had the merger with CyDex been completed as of the beginning of 2011, the Company's pro forma results for the six months ended June 30, 2011 would have been as follows:

(in thousands, except per share data)	2011
Revenue	$11,548
Operating loss	(2,300)
Net income	8,974
Basic and diluted earnings per share:	
Continuing operations	$ 0.46
Discontinued operations	$ 0.00
Net income	$ 0.46
Basic and diluted weighted average shares	19,623

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.

3. Financial Instruments

The Company measures certain financial assets and liabilities at fair value on a recurring basis, including available-for-sale fixed income and equity securities and other equity securities. The following table provides a summary of the assets and liabilities that are measured at fair value on a recurring basis as of June 30, 2012 (in thousands):

Fair Value Measurements at Reporting Date Using

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Short-term investments	$ 1,500	$ 1,500	$ —	$ —
Liabilities:				
Current potion of liability for contingent value rights - CyDex	$ 3,739	$ —	$ —	$ 3,739
Liability for contingent value rights - Metabasis	—	—	—	—
Liability for contingent value rights - Neurogen	500	—	—	500
Liability for contingent value rights - CyDex	9,913	—	—	9,913
Total liabilities	$14,152	$ —	$ —	$ 14,152

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

The Company's short-term investments are fixed income available-for-sale securities and include Corporate Notes, Corporate Discount Commercial Paper and certificates of deposit. The fair value of the Company's short-term investments and liability for contingent value rights- Metabasis are determined using quoted market prices in active markets.

4. AVINZA Co-Promotion

In February 2003, Ligand and Organon Pharmaceuticals USA Inc. ("Organon") announced that they had entered into an agreement for the co-promotion of Avinza. Subsequently in January 2006, Ligand signed an agreement with Organon that terminated the Avinza co-promotion agreement between the two companies and returned Avinza co-promotion rights to Ligand. In consideration of the early termination, Ligand 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, Ligand and King Pharmaceuticals, Inc., ("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.

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

A summary of the co-promote termination liability as of June 30, 2012 is as follows (in thousands):

Net present value of payments based on estimated future net AVINZA product sales as of December 31, 2011	$21,452
Assumed payments made by King or assignee	(1,702)
Fair value adjustments	(4,994)
Total co-promote termination liability as of June 30, 2012	14,756
Less: current portion of co-promote termination liability as of June 30, 2012	4,934
Long-term portion of co-promote termination liability as of June 30, 2012	$ 9,822

5. Lease obligations

The Company leases office and laboratory facilities in California, Kansas, and New Jersey. These leases expire between 2014 and 2019 and are subject to annual increases which range from 3.0% and 3.5%. The Company currently subleases office and laboratory space in California and New Jersey. The following table provides a summary of operating lease obligations and payments expected to be received from sublease agreements as of June 30, 2012 (in thousands):

Operating lease obligations:	Square Footage	Lease Termination Date	Less than 1 year	1-3 years	3-5 years	More than 5 years	Total
Corporate headquarters-San Deigo, CA	16,500	July 2019	$ 550	$ 1,151	$1,220	$ 962	$ 3,883
Bioscience and Technology Business Center-Lawrence, KS	1,500	December 2014	57	85			142
Vacated office and research facility-San Diego, CA	52,800	July 2015	2,143	4,481	191	—	6,815
Vacated office and research facility-Cranbury, NJ	99,000	August 2016	2,715	5,432	3,169	—	11,316
Total operating lease obligations			$ 5,465	$11,149	$4,580	$ 962	$22,156

Sublease payments expected to be received:			Less than 1 year	1-3 years	3-5 years	More than 5 years	Total
Office and research facility-San Diego, CA	52,800	July 2015	$ 892	$ 1,866			$ 2,758
Office and research facility-Cranbury, NJ	5,100	August 2016	252	746	373		1,371
Net operating lease obligations			$ 4,321	$ 8,537	$4,207	$ 962	$18,027

6. 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 CyDex Pharmaceuticals, Inc. and the traditional biotech operations including drug discovery and development of Ligand Pharmaceuticals, Inc. We evaluate 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:

Balance Sheet Data:

	As of June 30, 2012		
	Ligand	CyDex	Total
Total Assets	$71,580	$33,223	$104,594

	As of December 31, 2012		
	Ligand	CyDex	Total
Total Assets	$81,277	$41,073	$122,350

Operating Data:

	For the three months Ended June 30, 2012		
	Ligand	CyDex	Total
Net revenues from external customers	$ 3,929	$ 1,813	$ 5,742
Operating loss	(1,514)	(245)	(1,730)
Depreciation and amortization expense	73	605	678
Income tax expense from continuing operations	338	—	338
Income tax benefit from discontinuing operations	191	—	191
Interest expense, net	847	—	847

	For the six months Ended June 30, 2012		
	Ligand	CyDex	Total
Net revenues from external customers	$ 8,030	$ 3,348	$ 11,378
Operating profit (loss)	(1,799)	(696)	(2,495)
Depreciation and amortization expense	128	1,212	1,340
Income tax expense (benefit) from continuing operations	303	—	303
Income tax expense from discontinuing operations	14	—	14
Interest expense	1,622	—	1,622

7. Financing Arrangements

The Company has a secured term loan credit facility ("secured debt"). Under the terms of the secured debt, the Company will make interest only payments through March 2013. Subsequent to the interest only payments, the note will amortize with principal and interest payments through the remaining term of the loan. Additionally, the Company must also make an additional final payment equal to 6% of the total amount borrowed which is due at maturity and is being accreted over the life of the loan. The Company also has a cash-collateralized revolving credit facility under which the Company may elect to borrow up to $10 million. All outstanding amounts under the credit facility may become due and payable if the Company fails to maintain a cash balance equal to the amount outstanding under the credit facility. The carrying values and the fixed contractual coupon rates of our financing arrangements are as follows (dollars in millions):

	June 30, 2012	December 31, 2011
Bank line of credit, Prime + 2.0%, due March 29, 2013	$ 1,500	$ 10,000
Current portion notes payable, 8.64%, due August 1, 2014	4,224	—
Current portion notes payable, 8.9012%, due August 1, 2014	1,582	—
Total current portion of notes payable	$ 5,806	$ —
Long-term portion notes payable, 8.64%, due August 1, 2014	16,233	20,286
Long-term portion notes payable, 8.9012%, due August 1, 2014	5,978	—
Total long-term portion of notes payable	$ 22,211	$ 20,286

8. Stockholders' Equity

On May 31, 2012, the Company's stockholders approved the amendment and restatement of the Company's 2002 Stock Incentive Plan to increase the number of shares available for issuance by 1.8 million shares.

Stock Option Activity

The 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, 2011	1,146,046	$ 14.61	7.96	$ 1,489
Granted	642,845	14.28		
Exercised	(17,003)	10.25		
Forfeited	(65,927)	10.01		
Cancelled	(12,823)	40.50		
Balance at June 30, 2012	1,693,138	14.51		
Exercisable at June 30, 2012	689,860	16.87	7.15	2,634
Options vested and expected to vest as of June 30, 2012	1,693,138	14.51	8.35	6,702

The weighted-average grant date fair value of all stock options granted during the six months ended June 30, 2012 was $8.90 per share. The total intrinsic value of all options exercised during the six months ended June 30, 2012 and 2011 was approximately $0.3 million and $2,500, respectively. As of June 30, 2012, there was $6.6 million of total unrecognized compensation cost related to nonvested stock options. That cost is expected to be recognized over a weighted-average period of 3.1 years.

As of June 30, 2012, 1.9 million shares were available for future option grants or direct issuance under the Company's 2002 Stock Incentive Plan, as amended.

Restricted Stock Activity

Restricted stock activity for the three months ended June 30, 2012 is as follows:

	Shares	Weighted-Average Grant Date Fair Value
Nonvested at December 31, 2011	115,506	$ 10.63
Granted	108,661	13.75
Vested	(71,406)	11.48
Forfeited	(2,917)	9.86
Nonvested at June 30, 2012	149,844	12.50

The weighted-average grant-date fair value of restricted stock granted during the six months ended June 30, 2012 was $13.75 per share. As of June 30, 2012, there was $1.4 million of total unrecognized compensation cost related to nonvested restricted stock. That cost is expected to be recognized over a weighted-average period of 2.0 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 Ligand 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 7,374 and 2,404 shares of common stock issued and $75,000 and $18,000 of proceeds received under the Amended ESPP during the six months ended June 30, 2012 and 2011, respectively. The Company recorded compensation expense related to the ESPP of $22,000 and $700 for the six months ended June 30, 2012 and 2011, respectively. As of June 30, 2012, 89,917 shares were available for future purchases under the Amended ESPP.

Warrants

As of June 30, 2012, 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

On June 15, 2010, the Company announced that its Board of Directors had 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 authority to repurchase shares of the Company's common stock expired on June 8, 2012, at which time the Company had repurchased 16,905 shares of its common stock totaling $0.1 million.

9. Litigation

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.

10. 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 an exchange ratio of $74.25 per share, for revenue related to lasofoxifene and drolofoxifene. The remaining common stock issued and outstanding to Pfizer following the settlement was reclassified as common stock subject to conditional redemption (between liabilities and equity) since Pfizer has the option to settle milestone and royalties payments owed to the Company with the Company's shares, and such option is not within the Company's control. The remaining shares of the Company's common stock that could be redeemed totaled 112,371 and are reflected at the exchange ratio price of $74.25. Pfizer has notified Ligand that the development of the two compounds covered under the 1996 settlement agreement have been terminated and thus the Company reclassified the shares and the current carrying amount of $8.3 million to permanent equity in the first quarter of 2012.

12. Subsequent Events

Through August 8, 2012, the Company issued, pursuant to an at-the-market registered public offering, 150,000 common shares at a weighted average price of $18.19 per share. Total net proceeds to the Company after underwriting discounts and expenses were approximately $2.6 million.

ITEM 2. 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 Part II, 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, 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 royalties 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 quarterly 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 quarterly report belongs to its owner.

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

Overview

We are a biotechnology company that operates with a simple 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 formulation technology that has enabled six FDA approved products, including Pfizer's Vfend® IV, Baxter International's Nexterone®, and Onyx's Kyprolis™ 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 & Company, Rib-X Pharmaceuticals, Inc., and The Medicines Company.

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) to Retrophin, LLC ("Retrophin"). 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 received a net up-front payment of approximately $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.

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 May 2012, GSK submitted U.S. and European regulatory applications for use of Promacta to increase platelet counts in patients with hepatitis C. In July 2012, GSK announced they had been granted priority review for this application in the U.S.

In July 2012, our licensee, Onyx Pharmaceuticals, Inc.. ("Onyx"), received accelerated approval from the U.S. Food and Drug Administration, or FDA, for Kyprolis™ (Carfilzomib) for injection. Kyprolis is formulated with Ligand's Captisol® and is used for the treatment of patients with multiple myeloma who have received at least two prior therapies, including bortezomib and an immunomodulatory agent, and have demonstrated disease progression on or within 60 days of completion of the last therapy. The indication for Kyprolis is based on response rate. Currently, no data are available for Kyprolis that demonstrate an improvement in progression-free survival or overall survival. Under our agreement with Onyx, we are entitled to receive milestones, tiered royalties ranging between 1.5% and 3% as shown in the table below, and revenue from clinical and commercial Captisol material sales.

AGGREGATE NET SALES IN EACH CALENDAR YEAR	ROYALTY RATE
Up to, and including, $250 million	1.5%
$251 million to $500 million	2.0%
$501 million to $750 million	2.5%
Above $750 million	3.0%

The royalty rates set forth above will be applied to the total Net Sales of Product falling within the applicable range of aggregate annual Net Sales during the quarter.

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 June 30, 2012, we estimate that we have spent approximately $6.7 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 a second $0.5 million licensing fee be paid in September 2011. In addition, the amendment increased royalty rates which we may receive under the license agreement to 6% of net sales of products (other than Pradefovir) and 9% of net sales for Pradefovir. In addition, the amendment removed from the license agreement a provision that afforded us the potential to earn a 10% equity position in Chiva as a milestone payment. In September 2011, Chiva paid us the $0.5 million licensing fee called for by the amendment, of which $0.1 million was remitted to CVR holders.

Results of Operations

Three and Six Months Ended June 30, 2012 and 2011

Total revenues for the three and six months ended June 30, 2012 were $5.7 million and $11.4 million compared to $7.5 million and $11.4 million for the same periods in 2011. We reported a loss from continuing operations of $4.1 million and $4.6 million for the three and six months ending June 30, 2012, compared to a loss from continuing operations of $0.9 million and income from continuing operations of $9.1 million for the three and six months ended June 30, 2011.

Royalty Revenue

Royalty revenues were $3.0 million and $6.0 million for the three and six months ended June 30, 2012, compared to $2.2 million and $4.2 million for the same periods in 2011. The increase in royalty revenue is primarily due to an increase in Promacta royalties and royalties on CyDex licensed products offset by a decrease in Avinza royalties.

Material Sales

We recorded material sales of $1.7 million and $2.3 million for the three and six months ended June 30, 2012, compared to $3.0 million and $4.0 million for the same periods in 2011. The decrease in material sales is due to timing of customer purchases of Captisol.

Collaborative Research and Development and Other Revenues

We recorded collaborative research and development and other revenues of $1.1 million and $3.0 million for the three and six months ended June 30, 2012, compared to $2.3 million and $3.2 million for the same periods in 2011. The decrease of $1.2 million for the three months ended June 30, 2012, compared to the same period in 2011, is primarily due to the recognition of $1.3 million of deferred revenue related to the previous sale of royalty rights for the three month period ending June 30, 2011. Additionally, license fees and milestones increased $0.1 million for the three month period ending June 30, 2012 compared to the same period in 2011. The decrease of $0.2 million for the six months ended June 30, 2012, compared to the same period in 2011 is due to the recognition of $1.3 million of deferred revenue related to the previous sale of royalty rights for the six months ending June 30, 2011, partially offset by an increase in license fees and milestones of $1.1 million for the six months ending June 30, 2012 compared to the same period in 2011.

Research and Development Expenses

Research and development expenses were $2.9 million and $5.7 million for the three and six months ended June 30, 2012, respectively, compared to $3.2 million and $5.2 million for the same periods in 2011. The decrease of $0.3 million for the three months ended June 30, 2012, compared to the same period in 2011, is primarily due to timing of costs associated with internal programs. The increase of $0.5 million for the six months ended June 30, 2012, compared to the same period in 2011, is primarily due to an increase in costs associated with internal programs.

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

Program	Disease/Indication	Development Phase
Selective Androgen Receptor Modulators (SARMs) (agonists)	Muscle wasting and frailty	Phase I
Captisol-Enabled Melphalan IV	Oncology	Pivotal
Captisol-Enabled Topiramate IV	Epilepsy/Seizures	Preclinical
Glucagon receptor antagonist	Diabetes	Preclinical

We do not provide forward-looking estimates of costs and time to complete our ongoing research and development projects as such estimates would involve a high degree of uncertainty. Uncertainties include our inability to predict the outcome of complex research, our inability to predict the results of clinical studies, regulatory requirements placed upon us by regulatory authorities such as the FDA and EMA, our inability to predict the decisions of our collaborative partners, our ability to fund research and development programs, competition from other entities of which we may become aware in future periods, predictions of market potential from products that may be derived from our research and development efforts, and our ability to recruit and retain personnel or third-party research organizations with the necessary knowledge and skills to perform certain research. Refer to “Item 1A. Risk Factors” for additional discussion of the uncertainties surrounding our research and development initiatives.

General and Administrative Expenses

General and administrative expenses were $3.9 million and $7.4 million for the three and six months ended June 30, 2012, respectively, compared to $3.9 million and $7.3 million for the same periods in 2011.

Lease Exit and Termination Costs

In September 2010, we ceased use of our facility located in Cranbury, New Jersey. As a result, during the quarter ended September 30, 2010, 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 and recorded approximately $1.8 million of severance related costs. We recorded $0.2 million as a reduction of lease exit and termination costs for the three and six months ending June 30, 2012. During the three and six months ended June 30, 2011, we sold certain property and equipment for $16,000 and $0.2 million, respectively, from our former facility, which was recorded as a reduction of lease termination and exit costs.

Accretion of Deferred Gain on Sale Leaseback

On November 9, 2006, we sold real property located in San Diego, California for a sale price of $47.6 million. This property included our corporate headquarter building totaling approximately 82,500 square feet, the land on which the building was situated, and two adjacent vacant lots. As part of the sale transaction, we agreed to leaseback the building for a period of 15 years. We recognized an immediate pre-tax gain on the sale transaction of $3.1 million and deferred a gain of $29.5 million on the sale of the building. The deferred gain was being recognized 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 $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 our new building lease, which expired in December 2011. The amount of the deferred gain recognized for the three and six months ended June 30, 2011 was $0.4 million and $0.9 million, and was fully amortized as of December 31, 2011.

Interest Expense

Interest expense was $0.8 million and $1.6 million, for the three and six months ended June 30, 2012, respectively, compared to $0.7 million and $1.1 million for the same period in 2011. The increases in interest expense of $0.1 million for the three month period and $0.5 million for the six month period ending June 30, 2012 were due to the increase in the outstanding balance of notes payable at June 30, 2012 compared to June 30, 2011. Additionally, the $20 million loan obtained to acquire CyDex in January 2011 was outstanding for a partial period for the six months ending June 30, 2011.

Change in liability for Contingent Value Rights

We recorded an increase in the liability for CVRs of $1.2 million and $0.4 million for the three and six months ended June 30, 2012, compared to a decrease in liability for CVRs of $0.7 million and an increase in the liability for CVR's of $1.1 million for the three and six months ended June 30, 2011. The increase for the three months ended June 30, 2012 relates to an increase in the liability for amounts potentially due to holders of CVRs associated with our CyDex acquisition, primarily due to the increased likelihood of approval of Kyprolis following an FDA advisory meeting, for which we owe CyDex CVR holders $3.5 million upon approval. Partially offsetting this increase, we recorded a decrease in our liability for amounts potentially due to shareholders associated with our Neurogen acquisition of $0.2 million. The increase of $0.4 million in our liability for CVRs for the six months ended June 30, 2012 is due to an increase in the liability for amounts potentially due to holders of CVRs associated with our CyDex acquisition of $1.7 million, primarily due to the increased likelihood of approval of Kyprolis. Partially offsetting this increase, for the six months ended June 30, 2012, our liability for CVRs associated with our Metabasis acquisition decreased $1.1 million and our liability for CVRs associated with our Neurogen acquisition decreased $0.2 million.

The decrease in the liability for CVRs of $0.7 million for the three months ended June 30, 2011 is due to a decrease in the liability for amounts potentially due to holders of CVRs associated with our Metabasis acquisition of $0.1 million and a decrease in the liability for amounts potentially due to holders of CVRs associated with our CyDex acquisition of $0.6 million. The increase in the liability for CVRs of $1.1 million for the six months ended June 30, 2011 is due to an increase in the liability for amounts potentially due to holders of CVRs associated with our Metabasis acquisition of $1.6 million, partially offset by a decrease for amounts potentially due to holders of CVRs associated with our CyDex acquisition of $0.5 million.

Other, net

We recorded other income of $1,000 and $0.3 million for the three and six months ended June 30, 2012 compared to $32,000 and $82,000 for the three and six months ending June 30, 2011. Other income for 2012 primarily relates to income related to the release of obligations previously recorded associated with the acquisition of CyDex.

Income Taxes

We recorded income tax expense from continuing operations of $0.3 million for the three and six months ended June 30, 2012. We recorded income tax expense of $0.1 million for the three months ended June 30, 2011 and an income tax benefit of $13.4 million for the six months ended June 30, 2011. The income tax benefit for the six months ended June 30, 2011 relates 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.

Discontinued Operations

Oncology Product Line

On September 7, 2006, we and Eisai Inc., a Delaware corporation, and Eisai Co., Ltd., a Japanese company (which we collectively refer to as Eisai), entered into a purchase agreement, or the Oncology Purchase Agreement, pursuant to which Eisai agreed to acquire all of our worldwide rights in and to our 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. The Oncology product line included our four marketed oncology drugs: Ontak, Targretin capsules, Targretin gel and Panretin gel.

During the three and six months ended June 30, 2011, we recognized $0 and $4,000, respectively, of pre-tax gains due to subsequent changes in certain estimates and liabilities recorded as of the sale date.

Avinza Product Line

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

Pursuant to the terms of the Avinza Purchase Agreement, we retained the liability for returns of product from wholesalers that had been sold by us prior to the close of the Transaction. Accordingly, as part of the accounting for the gain on the sale of Avinza, we recorded a reserve for Avinza product returns.

During the three and six months ended June 30, 2012, we recognized pre-tax gains of $1.6 million and $3.7 million, respectively, due to subsequent changes in certain estimates and liabilities recorded as of the sale date.

Income Taxes

We recorded an income tax benefit of $0.2 million and $14,000 for income taxes related to discontinued operations for the three and six month periods ended June 30, 2012. We did not record any provision for income taxes for the three and six month periods ending June 30, 2011 as we did not realize any taxable income from discontinued operations.

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 June 30, 2012, our accumulated deficit was $682.7 million and we had negative working capital of $9.3 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, recent product approvals and regulatory developments as well as anticipated new license and milestone revenues. In the event revenues and operating cash flows do not meet expectations, management plans to reduce discretionary expenses. However, it is possible that we may be required to seek additional financing. There can be no assurance that additional financing will be available on terms acceptable to management, or at all. We believe our available cash, cash equivalents, and short-term investments as well as our current and future royalty, license and milestone revenues will be sufficient to satisfy our anticipated operating and capital requirements, through at least the next twelve months. Our future operating and capital requirements will depend on many factors, including, but not limited to: the pace of scientific progress in our research and development programs; the potential success of these programs; the scope and results of preclinical testing and clinical trials; the time and costs involved in obtaining regulatory approvals; the costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims; competing technological and market developments; the amount of royalties on sales of the commercial products of our partners; the efforts of our collaborative partners; obligations under our operating lease agreements; and the capital requirements of any companies we acquire, including 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 January 2011, we entered into a $20 million secured term loan credit facility (“secured debt”) with Oxford Financial Group (“Oxford”). The loan was amended in January 2012 to increase the secured credit facility to $27.5 million. The original $20 million borrowed under the facility bears interest at a fixed rate of 8.6%. The additional $7.5 million bears interest at a fixed rate of 8.9%. Under the terms of the secured debt, we will make interest only payments through March 2013. Subsequent to the interest only payments, the note will amortize with principal and interest payments through the remaining term of the loan. Additionally, we must also make an additional final payment equal to 6% of the total amount borrowed which is due at maturity and is being accreted over the life of the loan. The maturity date of the term loan is August 1, 2014.

We also have a cash-collateralized revolving credit facility under which we may elect to borrow up to $10 million. Amounts borrowed under the revolving credit facility bear interest at a floating rate equal to 200 basis points above the prime rate. All outstanding amounts under the credit facility may become due and payable if we fails to maintain a cash balance equal to the amount outstanding under the credit facility. The maturity date of the revolving credit facility is March 29, 2013.

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 us to sell shares or other securties as needed at any time. As of August 8, 2012, 150,000 shares have been issued under this registration statement for total net proceeds of approximately $2.6 million.

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 $6.0 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 and an additional $3.5 million was paid upon approval by the FDA of Kyprolis for the potential treatment of patients with relapsed and refractory multiple myeloma. In addition, we 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. We paid $0.3 million to the CyDex shareholders in March 2012 for 20% of all 2011 CyDex-related revenue in excess of $15 million. 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 intend 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. As of June 30, 2012, we estimate we have exceeded our commitment for the year ending December 31, 2012.

Based on management's plans, including projected 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 $1.1 million for the six months ended June 30, 2012, compared to $7.1 million of cash used in operating activities for the same period in 2011.

The cash used for the six months ended June 30, 2012 reflects a net loss of $0.9 million, adjusted by $3.7 million of gain from discontinued operations and $4.4 million of non-cash items to reconcile the net loss to net cash used in operations. These reconciling items primarily reflect the non-cash change in the estimated fair value of CVRs of $0.4 million, depreciation and amortization of $1.3 million, share-based compensation of $2.1 million, and the change in deferred income taxes of $0.3 million. The cash used during the six months ended June 30, 2012 is further impacted by changes in operating assets and liabilities due primarily to an increase in inventory of $0.3 million, a decrease in deferred revenue of $1.6 million, a decrease in accounts payable and accrued liabilities of $3.7 million, and an increase in other current assets of $0.7 million. Partially offset by decreases in accounts receivable of $5.3 million and other long term assets of $0.2 million. Cash used in operating activities of discontinued operations was $0.2 million for the six months ended June 30, 2012.

The cash used for the six months ended June 30, 2011 reflects net income of $9.1 million, adjusted by $4,000 of gain from discontinued operations and $10.4 million of non-cash items to reconcile the net income to net cash used in operations. These reconciling items primarily reflect the change in deferred income taxes of $13.6 million, accretion of deferred gain on the sale leaseback of the building of $0.9 million and non-cash lease costs of $0.1 million partially offset by the change in estimated fair value of contingent value rights of $1.1 million, depreciation and amortization of $1.3 million and share-based compensation of $1.7 million. The cash generated during the six months ended June 30, 2011 is further impacted by changes in operating assets and liabilities due primarily to a decrease in other liabilities of $1.6 million, an increase in inventory of $0.2 million, a decrease in deferred revenue of $1.2 million and a decrease in accounts payable and accrued liabilities of $8.9 million, partially offset by increases in other current assets of $4.3 million, accounts receivable of $1.2 million and other long term assets of $0.6 million. None of the cash used in operating activities for the six months ended June 30, 2011 related to discontinued operations.

Investing Activities

Investing activities provided cash of $3.7 million for the six months ended June 30, 2012, compared to $22.7 million of cash used by investing activities for the same 2011 period.

Cash provided by investing activities during the six months ended June 30, 2012 primarily reflects $8.5 million of proceeds from the sale of short-term investments, partially offset by payment to CVR holders of $4.5 million and purchases of property, equipment and building of $0.3 million. None of the cash provided by investing activities for the six months ended June 30, 2011 related to discontinued operations.

Cash used by investing activities during the six months ended June 30, 2011 primarily reflects $32.0 million of cash paid for the acquisition of CyDex and $10.0 million for purchases of short-term investments, partially offset by $19.3 million of proceeds from the sale of short-term investments. None of the cash provided by investing activities for the six months ended June 30, 2011 related to discontinued operations.

Financing Activities

Financing activities used cash of $0.8 million for the six months ended June 30, 2012, compared to cash provided by financing activities of $30 million for the same 2011 period.

Cash used by financing activities for the six months ended June 30, 2012 primarily reflects $8.5 million of repayment of debt, partially offset by proceeds from the issuance of debt of $7.5 million and proceeds from the issuance of common stock of $0.2 million.

Cash provided by financing activities for the six months ended June 30, 2011 primarily reflects $30.0 million of proceeds from the issuance of debt, partially offset by share repurchases of $0.1 million.

None of the cash used in financing activities for the six months ended June 30, 2012 and 2011 relates to discontinued operations.

Other

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 June 30, 2012 and December 31, 2011, the aggregate fair values of the Aplindore, VR1 and H3 CVR's were $0.5 million and $0.7 million, respectively, and included in long-term portion of liability for contingent value rights 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 June 30, 2012 and December 31, 2011 was $0 and $1.1 million, respectively.

In connection with the acquisition of CyDex Pharmaceuticals, Inc. on January 24, 2011, we issued a series of Contingent Value Rights. 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 $2.0 million was paid to the CyDex Shareholders upon acceptance by the FDA of Onyx's NDA Onyx and an additional $3.5 million was paid upon approval by the FDA of Kyprolis for the potential treatment of patients with relapsed and refractory multiple myeloma. We may be required to pay an additional $6.0 million upon achievement of certain milestones. 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. We paid $0.3 million to the CyDex shareholders in March 2012 related to 2011 CyDex-related revenue. The estimated fair value of the liability at June 30, 2012 was $13.7 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 3.5%. Commencing in 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 June 30, 2012 and December 31, 2011.

Contractual Obligations

As of June 30, 2012, future minimum payments due under our contractual obligations are as follows (in thousands):

	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations (1)	$22,156	$ 5,465	$11,149	$4,580	$ 962

(1) We currently sublease two of our facilities through their respective lease terms of July 2015 and August 2016. As of June 30, 2012, we expect to receive aggregate future minimum lease payments totaling $4.1 million (nondiscounted) over the duration of the sublease agreements as follows: less than one year, $1.1 million; one to three years, $2.6 million; and three to five years, $0.4 million.

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 June 30, 2012 we have spent approximately $14.8 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 June 30, 2012, we estimate that we have spent approximately $6.7 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. As of June 30, 2012, we estimate we have exceeded that amount.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

At June 30, 2012, our investment portfolio included fixed-income securities of $1.5 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. We purchase Captisol from Hovione, located in Lisbon, Portugal. Payments to Hovione are denominated and paid in US dollars, however the unit price of Captisol contains an adjustment factor which is based on the sharing of foreign currency risk between the two parties. The effect of an immediate 10% change in foreign exchange rates would have 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 4. 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, which we refer to as the Evaluation Date.

As a result of a material weakness in our internal control over financial reporting, our management concluded our disclosure controls and procedures were not effective as of December 31, 2011. Additionally, the material weakness could not be remediated until the applicable remedial procedures could be tested and management could conclude on the effectiveness of the procedures and controls.

Remediation of a Material Weakness in Internal Controls Over Financial Reporting

Since the transaction date which resulted in this material weakness, the applicable remedial procedures were tested and management has concluded that the procedures and controls are operating effectively for the period ending June 30, 2012. 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.

PART II. OTHER INFORMATION

Item 1. 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 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.

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

GSK is obligated to pay us royalties based on its sales of Promacta. These payments are expected to be a substantial portion of our ongoing revenues for some time. As a result, any setback that may occur with respect to Promacta could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for Promacta could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation, safety issues, 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.

Revenues based on sales of Kyprolis represent a substantial portion of our overall expected future revenues.

Revenues from Onyx based on sales of Kyprolis are expected to be a substantial portion of our revenue in the future and any setbacks that occur with respect to Kyprolis could significantly impair our future operating results and/or reduce the market price of our stock. Setbacks for Kyprolis could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulations, safety issues, 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.

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. 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, for example, by not making required payments when due, or at all our product development under these agreements will be delayed or terminated. Disputes or litigation may also arise with our collaborators, 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, Macau, China, and Zhejiang, China, but those sites are not yet fully 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, a series of unusually large orders 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 June 30, 2012, we had a negative working capital of $9.3 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.

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 equal to the amount outstanding under the credit facility. We paid $4.5 million on our revolving credit facility in January 2012, $4.0 million in March 2012, and the remaining $1.5 million in July 2012. On March 29, 2012, we entered into a Second Amendment to Loan and Security Agreement (the "Square 1 Second Amendment to Loan and Security Agreement"). The Square 1 Second Amendment to Loan and Security Agreement changed the maturity date of the revolving line of credit facility to March 28, 2013. The Square 1 Second Amendment to Loan and Security Agreement did not change the interest rate and interest payment schedule established in the Loan and Security Agreement.

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 us to sell shares or other securities as needed at any time. As of August 8, 2012, 150,000 common shares have been issued under this registration statement for total net proceeds of $2.6 million. In March 2012, we entered into a Controlled Equity Offering Sales Agreement with Cantor Fitzgerald & Co. (“Cantor”), as sales agent, to create an at-the-market equity program under which we may, from time to time, sell shares of common stock, par value $0.001 per share, up to an aggregate offering price of $30 million.

We believe that our capital resources, including our currently available cash, cash equivalents, and short-term investments as well as our current and future royalty revenues, will be adequate to fund our operations 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 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 became 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 became 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 and 2011 in the U.S. and are expected to expire between 2012 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 Captisol, Avinza, Promacta, Viviant and Conbriza (bazedoxifene), Fablyn, 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 and 2011 in the U.S. and are expected to expire between 2012 and 2016 in most countries outside the U.S. We have also obtained patent protection in the U.S. through 2025 on one or more Agglomerated forms of Captisol and through 2029 on one or more 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. For example, our European patent related to Agglomerated forms of Captisol is currently being opposed.

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 June 30, 2012, our accumulated deficit was $682.7 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.

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 4, we identified a material weakness in our internal controls for the year ended December 31, 2011. Since the transaction date which resulted in this material weakness, the applicable remedial procedures were tested and management has concluded that the procedures and controls are operating effectively for the period ending June 30, 2012. While no material weaknesses were identified as of June 30, 2012, we cannot assure you that material weaknesses will not be identified in future periods. The existence of one or more material weakness or significant deficiency could result in errors in 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.

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.

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

Pfizer, as successor to King, is obligated to pay us royalties based on the sales ofAvinza. These payments are expected to be a substantial portion of our ongoing revenues for some time. As a result, any setback that may occur with respect to Avinza could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for Avinza 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 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 farther 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.

On July 21,2009, 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. The case was dismissed on consent of the parties in July 2012.

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 $14.8 million as of June 30, 2012). 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 us to sell shares as needed at any time. As of August 8, 2012, 150,000 securities have been issued under this registration statement for total net proceeds of $2.6 million.

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.

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.

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

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

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ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Not applicable.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not appicable

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

The Index to Exhibits on page 49 is incorporated herein by reference as the list of exhibits required as part of this Quarterly Report.

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LIGAND PHARMACEUTICALS INCORPORATED
SIGNATURE

Pursuant to the requirements 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.

Date: August 8, 2012

By: /s/ John P. Sharp
John P. Sharp
Vice President, Finance and Chief Financial Officer

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INDEX TO EXHIBITS

Exhibit Number	Description
2.1(1)	Agreement and Plan of Merger, by and among the Company, Pharmacopeia, Inc., Margaux Acquisition Corp. and Latour Acquisition, LLC, dated as of September 24, 2008 (Filed as Exhibit 2.1).
2.2(2)	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(3)	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(3)	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(4)	Amendment No. 3 to Agreement and Plan of Merger, by and among the Company, Neurogen Corporation, and Neon Signal, LLC, dated December 17, 2009 (Filed as Exhibit 10.1).
2.6(5)	Certificate of Merger for acquisition of Neurogen Corporation (Filed as Exhibit 2.1).
2.7(6)	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(7)	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 (Filed as Exhibit 10.1).
2.9(8)	Certificate of Merger for acquisition of Metabasis Therapeutics, Inc. dated January 27, 2010 (Filed as Exhibit 2.1).
2.10(9)	Certificate of Merger, dated and filed January 24, 2011 (Filed as Exhibit 2.1).
2.11(9)	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(10)	Amended and Restated Certificate of Incorporation of the Company (Filed as Exhibit 3.1).
3.2(10)	Bylaws of the Company, as amended (Filed as Exhibit 3.3).
3.3(11)	Amended Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of the Company (Filed as Exhibit 3.3).
3.4(12)	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated June 14, 2000 (Filed as Exhibit 3.5).
3.5(13)	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated September 30, 2004 (Filed as Exhibit 3.6).
3.6(14)	Amendment of the Bylaws of the Company dated November 8, 2005 (Filed as Exhibit 3.1).
3.7(15)	Amendment of Bylaws of the Company dated December 4, 2007 (Filed as Exhibit 3.1).
4.1(16)	Specimen stock certificate for shares of Common Stock of the Company.
4.4(17)	2006 Preferred Shares Rights Agreement, by and between the Company and Mellon Investor Services LLC, dated as of October 13, 2006 (Filed as Exhibit 4.1).
10.1(18)	Second Amendment to Loan and Security Agreement, by and between the Company and Square 1 Bank, dated March 29, 2012.
10.2†	Research license and option agreement, by and between the Company and Ares Trading SA, dated as of April 27, 2012
10.3	Separation Agreement, by and between the Company and Dr. Syed Kazmi, dated May 4, 2012
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.

Exhibit Number	Description
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-Q for the quarterly period ended June 30, 2012, 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 from this quarterly report and submitted separately to the Securities and Exchange Commission

(1) 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.

(2) 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.

(3) 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

(4) 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 on Form 8-K filed on December 17, 2009.

(5) 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.

(6) 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 on Form 8-K filed on October 28, 2009.

(7) 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 on Form 8-K filed on December 1, 2009.

(8) 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.

(9) 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.

(10) 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.

(11) 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.

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

(14) 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 on Form 8-K filed on November 14, 2005.

(15) 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.

(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 Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended.

(17) 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 on Form 8-K filed on October 17, 2006.

(18) 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 on Form 8-K filed on April 4, 2012.

* These certifications are being furnished solely to accompany this quarterly 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 Ligand Pharmaceuticals, Incorporated, whether made before or after the date hereof, regardless of any general incorporation language in such filing. Signed originals of these certifications have been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

** 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.

CONFIDENTIAL

CERTAIN MATERIAL (INDICATED BY ASTERISKS) 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.

RESEARCH LICENSE AND OPTION AGREEMENT

Dated April 27, 2012

By and Between

Ligand Pharmaceuticals Incorporated

and

Ares Trading SA

THIS RESEARCH LICENSE AND OPTION AGREEMENT (the "**Agreement**") is dated as of April 27, 2012 (the "**Effective Date**") by and between Ligand Pharmaceuticals Incorporated, a corporation organized under the laws of the US state of Delaware having its place of business at 11085 North Torrey Pines Road, La Jolla, California 92037, USA ("**Ligand**"), and ARES Trading SA, a corporation organized under Swiss law having a place of business at Zone Industrielle de l'Ouriettaz, 1170 Aubonne SWITZERLAND ("**Merck**"). Ligand and Merck may be referred to herein as a "**Party**" or, collectively, as "**Parties**".

WHEREAS, Merck is engaged in the research, development, manufacturing and commercialization of pharmaceutical products; and

WHEREAS, Ligand is engaged in the research and development of pharmaceutical products and Controls rights to proprietary technology known as **[***]** and to the Compounds (as hereinafter defined); and

WHEREAS, Ligand is seeking a partner with the objective to out-license the Compounds;

WHEREAS, Merck desires to undertake a Feasibility Study pertaining to Ligand's proprietary Compounds, for the purpose of determining whether to enter into a license agreement with Ligand pertaining to such technology and Compounds;

NOW, THEREFORE, it is agreed as follows:

ARTICLE 1 *Definitions*

1.1 **"Affiliate**" means a Person or entity that controls, is controlled by or is under common control with a Party, but only for so long as such control exists. For the purposes of this Section 1.1, the word "control" (including, with correlative meaning, the terms "controlled by" or "under common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct the management and policies of such Person or entity, whether by the ownership of [***] of the voting stock of such entity, or by contract or otherwise.

1.2 **"Completion of Compound Transfer Date**" has the meaning set forth in Section 3.1.

1.3 "**Compounds**" means Ligand's proprietary **[***]** set forth on Schedule 1.3 and any other **[***]** of such compounds. Compounds not listed on Schedule 1.3 but delivered by Ligand as provided in Section 3.1 shall be included in the definition of Compounds.

1.4 "**Confidential Information"** of a Party means information relating to the business, operations and products of a Party or any of its Affiliates, including but not limited to, any technical information, Know-How, trade secrets, or inventions (whether patentable or not), not known or generally available to the public, that such Party discloses to the other Party under this Agreement, or otherwise becomes known to the other Party by virtue of this Agreement or that relates to this Agreement. Feasibility Study Results shall be regarded as Confidential Information of Merck.

*** 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.

1.5 "**Controlled**" or "**Controls**" means, with respect to (a) Patent Rights, (b) Know-How or (c) biological, chemical or physical material, that a Party or one of its Affiliates owns or has a license or sublicense to such Patent Rights, Know-How or material (or in the case of material, has the right to physical possession of such material) and has the ability to grant a license or sublicense to, or assign its right, title and interest in and to, such Patent Rights, Know-How or material as provided for in this Agreement without violating the terms of any agreement or other arrangement with any Third Party.

1.6 "**Feasibility Study Results**" means all data generated by Merck in the conduct of the Feasibility Study.

1.7 "**Feasibility Study**" means the activities set forth in the Research Plan.

1.8 **"Feasibility Study Term**" has the meaning set forth in Section 2.3.

1.9 **"Field**" means all prophylactic, palliative, therapeutic or diagnostic uses in humans or animals, in connection with Compounds and Research Plan (as set forth on Exhibit A).

1.10 "**Governmental Body**" means any: (a) nation, principality, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or entity and any court or other tribunal); (d) multi-national or supranational organization or body; or (e) individual, entity, or body exercising, or entitled to exercise, any executive, legislative, judicial, administrative, regulatory, police, military or taxing authority or power of any nature.

1.11 "**Know-How**" means any scientific or technical information, results and data of any type whatsoever, in any tangible or intangible form whatsoever, that is not in the public domain or otherwise publicly known, including, without limitation, discoveries, inventions, trade secrets, databases, practices, protocols, regulatory filings, methods, processes, techniques, software, works of authorship, plans, concepts, ideas, biological and other materials, reagents, specifications, formulations, formulae, data (including, but not limited to, pharmacological, biological, chemical, toxicological, clinical and analytical information, quality control, trial and stability data), case reports forms, data analyses, reports, studies and procedures, designs for experiments and tests and results of experimentation and testing (including results of research or development), summaries and information contained in submissions to and information from ethical committees,

the FDA or other Regulatory Authorities, and manufacturing process and development information, results and data, whether or not patentable, all to the extent not claimed or disclosed in a patent or patent application. The fact that an item is known to the public shall not be taken to exclude the possibility that a compilation including the item, and/or a development relating to the item, is (and remains) not known to the public. "Know-How" includes any rights including copyright, trade-secret, database or design rights protecting such Know-How. "Know-How" excludes Patent Rights.

1.12 **"Law**" or "**Laws"** means all applicable laws, statutes, rules, regulations, ordinances and other pronouncements having the binding effect of law of any Governmental Body.

1.13 **"License Agreement**" has the meaning set forth in Section 4.2.

1.14 "**Ligand Know-How**" means all the Know-How that relates to the Compounds and (a) is Controlled by Ligand and any of its Affiliates as of the Effective Date, including but not limited to the Know-How listed on Schedule 1.14 hereto or, (b) is developed or acquired by Ligand and any of its Affiliates during the Feasibility Study Term, but not in connection with the Feasibility Study.

1.15 **"Ligand Patent Rights**" means all Patent Rights that are Controlled by Ligand claiming or covering or relating to the Compounds including but not limited to the patent applications listed on Schedule 1.15 hereto.

1.16 "**Option**" has the meaning set forth in Section 4.1.

1.17 "**Option Expiration Date**" has the meaning set forth in Section 4.1.

1.18 **"Option Fee**" has the meaning set forth in Section 5.2.

1.19 "**Patent Right"** means: (a) an issued or granted patent, including any extension, supplemental protection certificate, registration, confirmation, reissue, reexamination, or renewal thereof; (b) a pending patent application, including any continuation, divisional, continuation-in-part, substitute or provisional application thereof; and (c) all counterparts or foreign equivalents of any of the foregoing issued by or filed in any country or other jurisdiction.

1.20 "**Person**" means any natural person, corporation, firm, business trust, joint venture, association, organization, company, partnership or other business entity, or any government or agency or political subdivision thereof.

1.21 "**Product**" means any pharmaceutical product, in any dosage form, formulation, presentation or package configuration that is commercialized or undergoing research or pre-clinical or clinical development that contains, incorporates or comprises, in part or in whole, a Compound.

1.22 **"Research License**" has the meaning set forth in Section 2.1.

1.23 "**Research Plan**" has the meaning set forth in Section 2.2.

1.24 **"Tax"** or **"Taxes"** means any federal, state, local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax of any kind whatsoever, including any interest, penalty, or addition thereto, whether disputed or not.

1.25 "**Term**" has the meaning set forth in Section 8.1.

1.26 "**Third Party**" means any Person other than Merck and its Affiliates or Ligand and its Affiliates.

ARTICLE 2 *Research License and Feasibility Study*

2.1 **Research License**.

a) Subject to the terms and conditions of this Agreement, Ligand hereby grants to Merck and its Affiliates an exclusive, worldwide, royalty-free license, with a right to sublicense to Third Parties, under the Ligand Patent Rights and the Ligand Know-How to perform or have performed experiments in the Field in compliance with the Research Plan during the Feasibility Study Term (the **"Research License**").

b) For the avoidance of doubt, nothing in this Agreement shall be construed as precluding Merck, during and after the Feasibility Study Term, to separately conduct (without use of Ligand Patent Rights and Ligand Know-How, and subject to limitations imposed by Sections 3.2 and 7) other projects with compounds with mode of action similar to the Compound.

2.2 **Research Plan**. The activities of Merck for the Feasibility Study are set forth in a preclinical research plan (the **"Research Plan**"), which is set forth as Exhibit A hereto. The Parties acknowledge that Merck formulated and will conduct the Research Plan at its own decision, at its own costs and under its sole responsibility and will assume all effects and consequences except for those arising from Ligand's **[***].**

2.3 **Feasibility Study Term**. The Feasibility Study shall be deemed complete at the earlier to occur of (a) the date by which Merck or one of its Affiliates has

*** 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.

completed its activities under the Research Plan and its evaluation of the Compounds (in this case, Merck will provide written notice of such completion to Ligand within **[***]** days) and (b) **[***]** months from the **[***]** which can be extended by up to **[***]** months, upon both Parties' agreement; such agreement being not unreasonably withheld or delayed by a Party (the "**Feasibility Study Term**").

2.4 Exclusivity. During the Term, Ligand **[***]**.

ARTICLE 3 *Research License Fee and Transfer of the Compounds*

3.1 Transfer of the Compounds. Within **[***]** days following the Effective Date, Ligand shall transfer to Merck, **[***]** of each Compound and any Ligand Know-How required in order to conduct the Feasibility Study as set out in the Research Plan. **[***]**. Merck shall confirm in writing, within a reasonable time **[***]** days after the transfer, the receipt of all of such Compounds and Ligand Know-How (such date of confirmation, the "**Completion of Compound Transfer Date**"). **[***]**. Except as otherwise provided under this Agreement, all Compounds delivered to Merck **[***]**, will be used and consumed only in the furtherance of the activities expressly contemplated by this Agreement, will not be used or delivered to or for the benefit of any Third Party without the prior written consent of Ligand, and will be stored, used and disposed of in compliance with all Laws, including environmental Laws. Merck **[***]** request that Ligand provides**[***]**. Ligand shall deliver the **[***]** but no longer than **[***]** months from receipt of Merck's request. In case, because of **[***]**, the actual delivery date of the **[***]** exceeds **[***]** months from receipt of Merck's request and is not compatible with the planning of the Feasibility Study conducted by Merck, Parties will agree in good faith on the extension of the Feasibility Study Term (i.e. in no event shall such request or compliance therewith extend the feasibility period of **[***]** months except if agreed by the Parties). **[***]**.

3.2 Merck shall not attempt to reverse engineer, derivatize, deconstruct or in any way determine the structure or composition of the Compounds during the Feasibility Study Term or after the Feasibility Study Term until and unless the License Agreement is executed by the Parties and remains in effect. Merck expressly acknowledges that the Compounds are supplied in circumstances imparting an obligation of confidence and are subject to Article 7 hereunder. Merck agrees to keep the Compounds secure and safe from loss, damage, theft, misuse and unauthorized access and shall procure that the Compounds shall be made available only to employees on a need to know basis

3.3 Disposition and Use of Compounds. In the event that Merck fails to execute the Option, the Compounds may no longer be used by Merck for any purpose, and shall be destroyed by Merck, or at Ligand's option returned to Ligand, at Ligand's cost and expense.

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

ARTICLE 4 *Option for a license*

4.1 **Grant of Option**. Ligand hereby grants to Merck an exclusive option to a license under the Ligand Patent Rights and Ligand Know-How to research, develop and commercialize Products in the Field (the "**Option**"). Merck may exercise the Option by written notice to Ligand at any time before the end of the Feasibility Study Term (the "**Option Expiration Date**"). In the event that Merck fails to exercise the Option on or prior to the Option Expiration Date, the Option shall automatically terminate without any further obligations for the Parties except as provided in Section 8.5.

4.2 **License Agreement**. In the event that Merck exercises the Option on or prior to the Option Expiration Date, the Parties shall execute the license agreement (**"License Agreement**") attached as Exhibit B within [***] from the date on which Ligand receives the Option exercise notice issued by Merck.

4.3 **Standstill**. Anything to the contrary notwithstanding, Ligand agrees that it will not, during the Term, negotiate and/or execute an agreement with any Third Party with respect to the granting of any rights under the Ligand Patent Rights and Ligand Know-How.

ARTICLE 5 *Financial Provisions*

5.1 Research License Fee. Within **[***]** days of the Effective Date and the receipt of a corresponding invoice from Ligand Merck shall pay, or cause to be paid, to Ligand:

(i) **[***]**; and

(ii) **[***]** corresponding to the **[***].**

5.2 **Option Fee.** In case of exercise of the Option by Merck as provided in Section 4.1, Merck shall pay, or cause to be paid to Ligand a one-time, non-refundable fee of **[***]** (the "**Option Fee**"), within **[***]** days following the date of execution of the License Agreement by the Parties. Payment of the Option Fee shall include any withholding tax obligations set forth in Section 5.3.

5.3 **Taxes.**

(a) Withholding Tax. Ligand shall be responsible for the payment of any and all Taxes levied on account of the royalties and other payments paid to Ligand by Merck under this Agreement. If applicable Law requires that Taxes be deducted and withheld from royalties or other payments paid under this Agreement, Merck shall (i) deduct those Taxes from the payment; (ii) pay the Taxes to the proper Governmental Body; (iii) send

*** 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.

evidence of the obligation together with proof of Tax payment to Ligand within **[***]** days following such payment; (iv) remit the net amount, after deductions or withholding made under this Section 5.3(a) and (v) cooperate with Ligand in any way reasonably requested by Ligand, to obtain available reductions, credits or refunds of such Taxes; provided, however, **[***]**. Assuming that Ligand is the beneficial owner of the Ligand Patent Rights and Ligand Know-How, the cooperation referred to in subparagraph (v) of the foregoing sentence shall include, without limitation, that Ligand shall provide Merck with a written confirmation from the competent tax authority that Ligand has its residence in USA together with any required tax application form which would allow the Parties to benefit from the reduced withholding Tax rate set forth in the Double Taxation Convention existing between USA and Switzerland or in case of any assignments with the respective country of residence of the company to which the contract has been assigned.

(b) Value Added Tax. Without prejudice to Article 5.1 (ii), all remuneration amounts set under this Agreement are net amounts. Value added tax, if applicable, will have to be added on those amounts. Merck is entitled to receive a proper tax invoice if value added tax is applicable.

ARTICLE 6 *Representations and Warranties; Intellectual Property*

6.1 Representations and Warranties of the Parties.

(a) **Corporate Power**. Each Party hereby represents and warrants that such Party is duly organized and validly existing under the laws of the state of its incorporation.

(b) **Due Authorization**. Each Party hereby represents and warrants that such Party is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder.

(c) **Binding Agreement**. Each Party hereby represents and warrants that this Agreement is a legal and valid obligation binding upon it and is enforceable in accordance with its terms; and that the execution, delivery and performance of this Agreement by such Party does not conflict with any agreement, instrument or commitment, oral or written, to which it is a Party or by which it may be bound, nor violate any Law.

6.2 Further Representations of Ligand. Ligand hereby represents and warrants, as of the Effective Date that:

(a) the Compounds, the Ligand Patent Rights and the Ligand Know-How are Controlled by Ligand;

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(b) Ligand will not transfer the Compounds, the Ligand Patent Rights or the Ligand Know-How to any Third Party during the Term of the Agreement;

(c) Ligand has not received written notice from any Third Party claiming that the research, manufacture, use or sale of the Compounds infringes the Patent Rights or Know-How of any Third Party;

(d) the exercise of the rights granted to Merck hereunder will not to the best of the knowledge of Ligand infringe any intellectual property rights of any Third Party such as but not limited to **[***]**;

(e) Ligand is not, to the best of its knowledge, party to any legal action, suit or proceeding relating to the Compounds, Ligand Patent Rights or the Ligand Know-How; and

(f) Ligand has the full right to grant to Merck the licenses and rights granted to Merck hereunder and has not granted any rights to the Compounds, the Ligand Patent Rights and the Ligand Know-How to any Third Party as of the Effective Date.

6.3 Feasibility Study Results. **[***]**.

6.4 Intellectual Property Generated in Conduct of Feasibility Study. **[***]**.

6.5 Exclusion of Liability. Except if arising from a breach by Ligand of any of its obligations (including its representations under Section 6.2) under this Agreement or from the negligence or willful misconduct from Ligand, **[***]**. For the avoidance of doubt, in case the same damage arises from both parties' breach, negligence or willful misconduct, each party will be responsible in proportion of its contribution in such damage. The terms of this clause shall survive termination of this Agreement for whatever reason.

ARTICLE 7 *Confidentiality*

7.1 Use of Confidential Information. During the Term and for **[***]** years thereafter, unless otherwise agreed upon by the Parties, neither Party shall use the other Party's Confidential Information except solely for the purposes contemplated in this Agreement.

7.2 Disclosure of Confidential Information. During the Term and for **[***]** years thereafter, except as set forth in this Section 7.2, neither Party shall directly or indirectly publish, disseminate or otherwise disclose, deliver or make available to any person outside its organization any of the other Party's Confidential Information. Each Party may disclose the other Party's Confidential Information

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to Affiliates and persons within its organization and to consultants who have a need to receive such Confidential Information in order to further the purposes of this Agreement, provided that such persons are bound to protect the confidentiality of such Confidential Information.

7.3 Release from Restrictions. Notwithstanding the provisions of Section 7.1 and 7.2, a Party shall not be prevented from using or disclosing Confidential Information of the other Party which (a) was known by the receiving Party or its Affiliates other than under an obligation of confidentiality, prior to its date of disclosure to the receiving Party, as demonstrated by competent written records, (b) either before or after its date of disclosure to the receiving Party is lawfully disclosed to the receiving Party or its Affiliates by Third Party rightfully in possession of the Confidential Information, but only to the extent of the rights obtained from such Third Party, (c) either before or after the date of disclosure to the receiving Party becomes published or otherwise part of the public domain through no fault or omission on the part of the receiving Party or its Affiliates or its authorized disclosees as set forth under Section 7.2, or (d) is independently developed by the receiving Party or its Affiliates without any use of the Confidential Information of the disclosing Party as demonstrated by competent written records. In addition, the receiving Party may make such disclosures as are reasonably necessary to comply with Laws, provided that the receiving Party provides written notice of such disclosure to the other Party and takes all reasonable actions to avoid and/or minimize the degree of such disclosure.

7.4 Publicity. Parties may make public announcements with respect to this Agreement solely to the extent mandatorily required by applicable Laws. For the avoidance of doubt, the Parties agree that [***] shall not be disclosed by any Party. However the structure or type of the Agreement (e.g. Research Licence/Feasibility Study and Option Agreement) may be disclosed if required by applicable Laws. Such announcement shall be provided in advance to the other Party for prompt review and comment and shall also not contain confidential technical or business information or, if disclosure of confidential technical or business information is required by Law, shall make reasonable efforts to minimize such disclosure and obtain confidential treatment for any such information which is disclosed to a Governmental Body. Ligand shall be authorized to make the public announcement set forth in Exhibit 7.4 (Form 8-K) and to repeat its content in other acceptable contexts notified to Merck.

7.5 Return of Confidential Property. In addition to the requirements of Section 3.2, all physical material containing Confidential Information shall be returned to the disclosing Party, at the disclosing Party's cost, or at the disclosing Party's option destroyed by the receiving Party, prior to or immediately upon the termination of this Agreement, provided however, that the receiving Party may retain one copy of written materials containing Confidential Information strictly for use as a record of information disclosed by the disclosing party, and to be used for no other purpose without the disclosing Party's written consent.

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ARTICLE 8 *Term and Termination*

8.1 **Term**. The term of this Agreement shall commence on the Effective Date and, unless earlier terminated as provided in this Article 8, shall continue in force and effect until the earlier of (a) Merck's failure to exercise the Option on or prior to the Option Expiration Date; or (b) the execution of the License Agreement (the "**Term**").

8.2 **Termination For Convenience**. Merck may terminate this Agreement upon a sixty (60) days' prior written notice to Ligand at any time during the Term. Upon any such termination, Merck shall have no further obligation to Ligand, other than as expressly provided under Section 8.5. In addition, the provisions of Articles 2 and 4 and Section 3.1 shall terminate immediately and Merck shall promptly return to Ligand, or at Ligand's option destroy, the remaining quantities of the Compounds provided by Ligand to Merck.

8.3 **Termination For Material Breach**. Upon any material breach of this Agreement by a Party, the other Party may terminate this Agreement by providing a thirty (30) days' written notice to the breaching Party, specifying the material breach. The termination shall become effective at the end of the thirty (30) days' period unless the breaching Party cures such breach during such thirty (30) days' period.

8.4 **Consequence of Termination**. In case of termination of this Agreement, (a) Merck shall promptly return to Ligand, or at Ligand's option destroy, the remaining quantities of the Compounds provided by Ligand to Merck and (b) the Research License granted to Merck, as well as the rights granted to Merck under Article 4 shall terminate.

8.5 **Survival**. Upon expiration or termination of this Agreement for any reason, nothing in this Agreement shall be construed to release either Party from any obligations that matured prior to the effective date of expiration or termination. Articles 6 and 7 and Sections 2.1 b), 3.2, 3.3, 5.3 and 9.8 shall expressly survive any such expiration or termination.

ARTICLE 9 *Miscellaneous*

9.1 **Relationship of Parties**. Nothing in this Agreement or in the course of business between Merck and Ligand shall make or constitute either Party a partner, employee or agent of the other. Neither Party shall have any right nor authority to commit or legally bind the other Party in any way whatsoever including, without limitation, the making of any agreement, representation or warranty and each Party agrees to not purport to do so.

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9.2 **Notices and Deliveries**. Any notice, request, approval or consent required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered in person, transmitted by facsimile (receipt verified) or by express courier service (signature required) to the Party to which it is directed at its address or facsimile number shown below or such other address or facsimile number as such Party shall have last given by notice to the other Party.

If to Merck:

Merck Serono SA
9 chemin des Mines
1202 Geneva
Switzerland
Attn: Pascale Gaillard
Facsimile: +41 22 4149565

With a copy to:

Merck Serono S.A.-Geneva
9, Chemin des Mines
1202 Geneva
Switzerland
Attn: Legal Department
Facsimile: +41 22 414 3070

If to Ligand:

Ligand Pharmaceuticals Incorporated
Attention: General Counsel
11085 North Torrey Pines Road
La Jolla, CA 92037
Facsimile: 858-550-5658

9.3 **Assignment**. This Agreement may not be assigned by either Party without the prior written consent of the other Party, except that either Party may assign this Agreement to any of its Affiliates or to a successor in connection with the merger, consolidation, or sale of all or substantially all of its assets or that portion of its business pertaining to the subject matter of this Agreement, with prompt written notice to the other Party of any such assignment. Notwithstanding the foregoing, without Merck's prior written consent (which Merck agrees that it shall not unreasonably withhold or delay), [***]. This Agreement shall inure to the benefit of and be binding upon the Parties and their respective lawful successors and assigns.

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9.4 Waiver. A waiver by either Party of any of the terms and conditions of this Agreement in any instance shall not be deemed or construed to be a waiver of such term or condition for the future, or of any other term or condition hereof. All rights, remedies, undertakings, obligations and agreements contained in or available upon violation of this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

9.5 Performance by Affiliates. Merck shall have the right to have any of its obligations hereunder performed, or its rights hereunder exercised, by, any of its Affiliates and the performance of such obligations by any such Affiliate(s) shall be deemed to be performance by Merck; provided, however, that Merck shall be responsible for ensuring the performance of its obligations under this Agreement and that any failure of any Affiliate performing obligations of Merck hereunder shall be deemed to be a failure by Merck to perform such obligations.

9.6 Entire Agreement. This Agreement and the schedules and exhibits hereto constitute and contain the entire understanding and agreement of the Parties respecting the subject matter hereof and cancel and supersede any and all prior or contemporaneous negotiations, correspondence, understandings and agreements between the Parties, whether oral or written, regarding such subject matter; provided that any existing nondisclosure/nonuse agreement shall remain unchanged and in full force and effect for confidential information exchanged before the Effective Date. No waiver, modification or amendment of any provision of this Agreement shall be valid or effective unless made in writing referencing this Agreement and signed by a duly authorized officer of each Party.

9.7 Severability. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable Law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable Law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement. The Parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

9.8 Force Majeure. Neither Party shall be liable to the other Party or be deemed to have breached or defaulted under this Agreement for failure or delay in the performance of any of its obligations under this Agreement for the time and to the extent such failure or delay is caused by or results from any reason which is reasonably unforeseeable and unpreventable and beyond the control of the respective Party. The Party affected by force majeure shall provide the other Party with full particulars thereof as soon as it becomes aware of the same

(including its best estimate of the likely extent and duration of the interference with its activities), and will use diligent efforts to overcome the difficulties created thereby and to resume performance of its obligations hereunder as soon as practicable.

9.9 Governing Law and Jurisdiction. This Agreement shall be governed by and interpreted in accordance with the Laws of New York, excluding application of any conflict of Laws principles that would require application of the Law of a jurisdiction outside of New York and will be subject to the exclusive jurisdiction of the courts of New York.

9.10 No Implied License. No right or license is granted to Merck hereunder by implication, estoppel, or otherwise to any know-how, patent or other intellectual property right owned or controlled by Ligand or its Affiliates. No right or license is granted to Ligand hereunder by implication, estoppel, or otherwise to any know-how, patent or other intellectual property right owned or controlled by Merck or its Affiliates.

9.11 Counterparts. This Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A facsimile or a portable document format (PDF) copy of this Agreement, including the signature pages, will be deemed an original.

IN WITNESS WHEREOF, Merck and Ligand have caused this Agreement to be signed and executed under seal by its duly authorized officers as of the Effective Date.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ Charles Berkman
Name: Charles Berkman
Title: Vice President, General Counsel and Secretary

ARES TRADING SA

By: /s/ Cedric Hyde
Name:
Title:

By: /s/ Cedric Hyde
Name:
Title:

EXHIBIT A:

RESEARCH PLAN

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EXHIBIT B

TERMS OF LICENSE AGREEMENT ("LICENSE AGREEMENT")

SCHEDULE 1.3

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SCHEDULE 1.14

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SCHEDULE 1.15

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EXHIBIT 7.2

Form of Announcement

On April , 2012, Ligand Pharmaceuticals Incorporated licensed certain rights to an undisclosed anti-inflammatory research program to Merck KGaA. Ligand will receive [***]. Additional future potential payments and other terms of the agreement are not disclosed.

*** 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.

CERTAIN MATERIAL (INDICATED BY ASTERISKS) 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

Dated , 201

By and Between

Ligand Pharmaceuticals Incorporated

And

ARES Trading SA

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (the "Agreement") is dated as of , 201 (the "Effective Date") by and between Ligand Pharmaceuticals Incorporated, a corporation organized under the laws of the US state of Delaware having its place of business at 11085 North Torrey Pines Road, La Jolla, CA 92037, USA ("Licensor"), and ARES Trading SA, an organization organized under Swiss law having a place of business at Zone Industrielle de l'Ouriettaz, 1170 Aubonne, acting through its pharmaceutical division Merck Serono Switzerland(including all of its Affiliates, "Merck"). Licensor and Merck may be referred to herein as a "Party" or, collectively, as "Parties."

RECITALS:

WHEREAS, Licensor is a pharmaceutical company engaged in the discovery and development of the Compound (as hereinafter defined);

WHEREAS, Merck, through its Merck Serono division and its Affiliates (as hereinafter defined) are engaged in the research, development, manufacturing and commercialization of pharmaceuticals products, and Merck is interested in developing and commercializing products containing or comprising the Compound; and

WHEREAS, Merck desires to license from Licensor and Licensor wishes to license to Merck, on an exclusive basis, the right to develop and commercialize products comprising the Compound.

NOW, THEREFORE, in consideration of the various promises and undertakings set forth herein, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

Unless otherwise specifically provided herein, the following terms shall have the following meanings:

1.1 **"Adverse Event**" means any serious untoward medical occurrence in a patient or subject who is administered a Licensed Product, but only if and to the extent that such serious untoward medical occurrence is required under applicable Laws to be reported to the FDA or any other Regulatory Authority. For the purpose of Section 4.3 of this Agreement, Adverse Events are limited to those culminating in death or permanent disability of a patient or subject to which is administered a Licensed Product.

1.2 **"Affiliate"** means a Person or entity that controls, is controlled by or is under common control with a Party, but only for so long as such control exists. For the purposes of this Section 1.2, the word "control" (including, with correlative meaning, the terms "controlled by" or "under common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct the management and policies of such Person or entity, whether by the ownership of at **[***]** of the voting stock of such entity, or by contract or otherwise.

1.3 **"[***]"** means **[***] provided however that [***].**

1.4 **"[***]"** means **[***]**, provided however that **[***]**.

1.5 **"Change of Control**" means

(a) a transaction or series of related transactions that results in the sale or other disposition of all or substantially all of a Party's assets; or

(b) a merger or consolidation in which a Party is not the surviving corporation or in which, if a Party is the surviving corporation, the shareholders of such Party immediately prior to the consummation of such merger or consolidation do not, immediately after consummation of such merger or consolidation, possess **[***]** of the voting power of all of the Party's outstanding stock and other securities and the power to elect **[***]** of the members of the Party's board of directors; or

(c) a transaction or series of related transactions (which may include without limitation a tender offer for a Party's stock or the issuance, sale or exchange of stock of a Party) if the shareholders of such Party immediately prior to the initial such transaction do not, immediately after consummation of such transaction or any of such related transactions, own stock or other securities of the entity that possess **[***]** of the voting power of all of the Party's outstanding securities and the power to elect **[***]** of the members of the Party's board of directors.

1.6 **"Clinical Trial"** means a clinical trial in human subjects that has been approved by a Regulatory Authority and is designed to measure the safety and/or efficacy of a Licensed Product. Clinical Trials shall include Phase I Trials, Phase II Trials and Phase III Trials.

1.7 **"[***]"** means a product containing the **[***]** together with **[***]**, or with **[***]**.

*** 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.

1.8 **"Commercialization"** or **"Commercialize"** means any and all activities undertaken at any time for a particular Licensed Product and that relate to the marketing, promoting, distributing, importing or exporting for sale, offering for sale, and selling of the Licensed Product, and interacting with Regulatory Authorities regarding the foregoing.

1.9 **"Commercially Reasonable Efforts**" means, (a) with respect to the efforts to be expended by any Party with respect to any objective, such reasonable, diligent, and good faith efforts as any Party would normally use to accomplish a similar objective under similar circumstances, and (b) with respect to any objective relating to Development or Commercialization of a Licensed Product by Merck, the application **[***]**, consistent with the exercise of its prudent scientific and business judgment, of diligent efforts and resources to fulfill the obligation in issue, **[***]** would devote to a product at a similar stage in its product life as the Licensed Product and having profit potential and strategic value comparable to that of the Licensed Product, taking into account, without limitation, commercial, legal and regulatory factors, target product profiles, product labeling, past performance, the regulatory environment and competitive market conditions in the therapeutic area, safety and efficacy of the Licensed Product, the strength of its proprietary position and such other factors **[***]**. Commercially Reasonable Efforts will not mean that Merck commits that it will actually accomplish the applicable task.

1.10 **"Competing Product**" means any pharmaceutical product in any dosage form, formulation, presentation or package configuration which exhibits therapeutic or prophylactic activity which is similar to that exhibited by the Licensed Product and the method of action of which is **[***].**

1.11 **"Compounds**" means **[***]**.

1.12 **"Compulsory License**" means a compulsory license under Licensor Technology obtained by a Third Party through the order, decree, or grant of a competent Governmental Body or court, authorizing such Third Party to develop, make, have made, use, sell, offer to sell or import a Competing Product or Licensed Product in any country.

1.13 **"Confidential Information"** of a Party means information relating to the business, operations and products of a Party or any of its Affiliates, including but not limited to, any technical information, Know-How, trade secrets, or inventions (whether patentable or not), not known or generally available to the public, that such Party discloses to the other Party under this Agreement, or otherwise becomes known to the other Party by virtue of or that relates to this Agreement.

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1.14 **"Controlled**" means, with respect to (a) Patent Rights, (b) Know-How or (c) biological, chemical or physical material, that a Party or one of its Affiliates owns or has a license or sublicense to such Patent Rights, Know-How or material (or in the case of material, has the right to physical possession of such material) and has the ability to grant a license or sublicense to, or assign its right, title and interest in and to, such Patent Rights, Know-How or material as provided for in this Agreement without violating the terms of any agreement or other arrangement with any Third Party.

1.15 **"Cover", "Covering"** or **"Covered"** means, with respect to a Licensed Product, that the manufacturing, importing, using, selling, or offering for sale of such Licensed Product would, but for a license granted under this Agreement to the relevant Patent Rights, infringe a Valid Claim of the relevant Patent Rights in the country in which the activity occurs.

1.16 **"Development"** or **"Develop"** means, with respect to a Licensed Product, **[***].**

1.17 **"EMA"** means the European Medicines Agency or any successor agency.

1.18 **"European Commission"** means the authority within the European Union that has the legal authority to grant Regulatory Approvals in the European Union based on input received from the EMA or other competent Regulatory Authorities.

1.19 **"Executive Officers**" means, together, each member of the senior management of the pharmaceutical division of Merck/executive management board of the pharmaceutical division reporting to the executive board of Merck ("*Geschäftsleitung")* and each member of the senior management of Licensor.

1.20 **"FDA"** means the United States Food and Drug Administration, or a successor federal agency thereto.

1.21 **"Field"** means all prophylactic, palliative, therapeutic or diagnostic uses in humans or animals.

1.22 **"First Commercial Sale"** means, with respect to a Licensed Product in any country, the first commercial transfer or disposition for value of such Licensed Product in such country to a Third Party by Merck, an Affiliate of Merck or a Sublicensee after Regulatory Approval therefor has been obtained in such country.

1.23 **"Governmental Body"** means any: (a) nation, principality, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any

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governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or entity and any court or other tribunal); (d) multi-national or supranational organization or body; or (e) individual, entity, or body exercising, or entitled to exercise, any executive, legislative, judicial, administrative, regulatory, police, military or taxing authority or power of any nature.

1.24 **"IFRS**" means the International Financial Reporting Standards, the set of accounting standards and interpretations and the framework in force on the Effective Date and adopted by the European Union as issued by the International Accounting Standards Board (IASB) and the International Financial Reporting Interpretations Committee (IFRIC), as such accounting standards may be amended from time to time.

1.25 **"Indication"** means a generally acknowledged disease or condition, a significant manifestation of a disease or condition, or symptoms associated with a disease or condition or a risk for a disease or condition. For the avoidance of doubt, all variants of a single disease or condition (whether classified by severity or otherwise) shall be treated as the same Indication.

1.26 **"Initiation"** of a Clinical Trial means the date of the first dosing of the Licensed Product to the **[***]** subject/patient in such Clinical Trial.

1.27 **"IND"** means an investigational new drug application submitted to the FDA or the equivalent application or submission filed with any equivalent agency or Governmental Body outside the United States (including any supra-national entity such as in the European Union) for approval to commence Clinical Trials in such jurisdiction.

1.28 **"IND Submission**" means the submission of an IND for the Licensed Product with the relevant Regulatory Authority.

1.29 **"IND Submission Acceptance**" means the receipt of notice from the relevant Regulatory Authority that an IND for the Licensed Product has met all the criteria for submission acceptance.

1.30 **"Know-How"** means any scientific or technical information, results and data of any type whatsoever, in any tangible or intangible form whatsoever, that is not in the public domain or otherwise publicly known, including, without limitation, discoveries, inventions, trade secrets, databases, practices, protocols, regulatory filings, methods, processes, techniques, software, works of authorship, plans,

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concepts, ideas, biological and other materials, reagents, specifications, formulations, formulae, data (including, but not limited to, pharmacological, biological, chemical, toxicological, clinical and analytical information, quality control, trial and stability data), case reports forms, data analyses, reports, studies and procedures, designs for experiments and tests and results of experimentation and testing (including results of research or development), summaries and information contained in submissions to and information from ethical committees, the FDA or other Regulatory Authorities, and manufacturing process and development information, results and data, whether or not patentable, all to the extent not claimed or disclosed in a patent or patent application. The fact that an item is known to the public shall not be taken to exclude the possibility that a compilation including the item, and/or a development relating to the item, is (and remains) not known to the public. "Know-How" includes any rights including copyright, trade-secret, database or design rights protecting such Know-How. "Know-How" excludes Patent Rights.

1.31 **"Knowledge"** means with respect to a matter that is the subject of a given representation or warranty of Licensor, the knowledge, information or belief that **[***].**

1.32 **"Law" or "Laws"** means all applicable laws, statutes, rules, regulations, ordinances and other pronouncements having the binding effect of law of any Governmental Body.

1.33 **"Licensed Product"** means any pharmaceutical product, in any dosage form, formulation, presentation or package configuration that is commercialized or undergoing research or pre-clinical or clinical development that contains or comprises, in part or in whole, a Compound.

1.34 **."Licensor Bankruptcy Event**" means (a) voluntary or involuntary proceedings by or against Licensor are instituted in bankruptcy or under any insolvency law, which proceedings, if involuntary, shall not have been dismissed within **[***]** days after the date of filing; (b) a receiver or custodian is appointed for Licensor; (c) proceedings are instituted by or against Licensor for corporate reorganization, dissolution, liquidation or winding-up of Licensor, which proceedings, if involuntary, shall not have been dismissed within **[***]** days after the date of filing; or (d) substantially all of the assets of Licensor are seized or attached and not released within **[***]** days thereafter**.**

1.35 **"Licensor Know-How**" means all Know-How that is Controlled by Licensor or any of its Affiliates as of the Effective Date or at any time thereafter during the Term and is necessary in the research, Development, manufacture, use, or Commercialization of the Licensed Products. The Licensor Know-How shall include, but not be limited to, all Know-How set forth on Schedule 2 hereto **[***]**.

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1.36 **"Licensor Materials"** means all chemical or biological materials that are Controlled by Licensor or any of its Affiliates as of the Effective Date or at any time thereafter during the Term and are necessary in the research, Development, manufacture, use or Commercialization of the Licensed Products. The Licensor Materials set forth on Schedule 3 hereto (less those already transferred to Merck) constitute all Licensor Material**s** Controlled by Licensor or any of its Affiliates as of the Effective Date.

1.37 **"Licensor Patents"** means all Patent Rights, that are Controlled by Licensor or its Affiliates as of the Effective Date or at any time thereafter during the Term and are necessary for the research, Development, manufacture, use, or Commercialization of the Licensed Products. Subject to the last paragraph of section 8.3, the Patent Rights set forth on Schedule 4 hereto constitute all such Patent Rights Controlled by Licensor or any of its Affiliates as of the Effective Date.

1.38 **"Licensor Technology"** means the Licensor Patents, the Licensor Know-How and the Licensor Materials.

1.39 **"**[***]" [***].

1.40 **"Merck Cost of Goods"** shall have the meaning set forth on Exhibit A hereto.

1.41 **"NDA"** means a New Drug Application submitted pursuant to the requirements of the FDA, as more fully defined in 21 U.S. CFR §314.3 et seq., a Biologics License Application submitted pursuant to the requirements of the FDA, as more fully defined in 21 U.S. CFR §601, and any equivalent application submitted in any country, including a European Marketing Authorization Application, together, in each case, with all additions, deletions or supplements thereto.

1.42 **"NDA** Acceptance" means the receipt of notice from the relevant Regulatory Authority that an NDA for a Licensed Product has met all the criteria for filing acceptance.

1.43 **"Net Sales"** means the **[***]**

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

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[***]
[***]

[***].

[***]**.**

[***].

[***]

[***]

[***]

[***]

[***]

[***]

1.44 **"Out-of-Pocket Expenses**" means **[***]**.

1.45 **"Patent Right"** means: (a) an issued or granted patent, including any extension, supplemental protection certificate, registration, confirmation, reissue, reexamination, extension or renewal thereof; (b) a pending patent application, including any continuation, divisional, continuation-in-part, substitute or provisional application thereof; and (c) all counterparts or foreign equivalents of any of the foregoing issued by or filed in any country or other jurisdiction.

1.46 **"Person"** means any natural person, corporation, firm, business trust, joint venture, association, organization, company, partnership or other business entity, or any government or agency or political subdivision thereof.

1.47 **"Phase I Trial**" means a Clinical Trial in which a Licensed Product is administered to human subjects at single and/or multiple dose levels with the primary purpose of determining safety, metabolism, and pharmacokinetic and pharmacodynamic properties of the Licensed Product, and which is consistent with 21 U.S. CFR §312.21(a). For the purposes of the milestone payments in Section 5.2, a "Phase I Trial" shall be a Clinical Trial which is submitted by Merck (or its Affiliate or Sublicensee) to the Regulatory Authority as a Phase I Trial or as a Phase I/II Clinical Trial.

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1.48 **"Phase II Trial"** means a Clinical Trial of a Licensed Product in human patients, the principal purposes of which are to make a preliminary determination that the Licensed Product is safe for its intended use, to determine its optimal dose, and to obtain sufficient information about the Licensed Product's efficacy to permit the design of Phase III Trials, and which is consistent with 21 U.S. CFR §312.21(b). For the purposes of the milestone payments in Section 5.2, a "Phase II Trial" shall be a Clinical Trial which is submitted by Merck (or its Affiliate or Sublicensee) to the Regulatory Authority expressly as a Phase II Trial or a Phase II/III Clinical Trial.

1.49 **"Phase III Trial"** means a Clinical Trial of a Licensed Product in human patients, which trial is designed (a) to establish that the Licensed Product is safe and efficacious for its intended use; (b) to define warnings, precautions and adverse reactions that are associated with the Licensed Product in the dosage range to be prescribed; and (c) to be, either by itself or together with one or more other Clinical Trials having a comparable design and size, the final human Clinical Trial in support of Regulatory Approval of an NDA of the Licensed Product, and (d) consistent with 21 U.S. CFR §312.21(c). For the purposes of the milestone payments in Section 5.2, a "Phase III Trial" shall be a Clinical Trial which is submitted by Merck to the Regulatory Authority as a Phase III.

1.50 **"Price Approvals"** means in those countries where Regulatory Authorities may approve or determine pricing and/or pricing reimbursement for pharmaceutical products, such approval or determination.

1.51 **"Research License and Option Agreement**" shall mean the agreement, so named and dated April , 2012, entered between the Parties in order for Merck to evaluate the Compounds. This agreement also contains an option for Merck to be granted an exclusive license under the terms of the Agreement, which Merck has exercised.

1.52 **"Regions**" means **[***].**

1.53 **"Regulatory Authority"** means (a) the FDA, (b) the EMA or the European Commission, or (c) any regulatory body with similar regulatory authority over pharmaceutical or biotechnology products in any other jurisdiction anywhere in the world.

1.54 **"Regulatory Approval"** means any and all approvals, licenses, registrations, or authorizations of the relevant Regulatory Authority, including Price Approvals, necessary for the Development, manufacture, use, storage, import, transport or Commercialization of the Licensed Product in a particular country or jurisdiction. For the avoidance of doubt, Regulatory Approval to Commercialize the Licensed Product shall include Price Approval.

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1.55 **"Royalty Term"** means, on a Licensed Product-by-Licensed Product and country-by-country basis, the period from the First Commercial Sale of a given Licensed Product in such country until the last date on which the Licensed Product is Covered by a Valid Claim within the Licensor Patents in such country. In a country where a Valid Claim of a Licensor Patent Covering the Licensed Product has never existed, the Royalty Term means on a Licensed Product-by-Licensed Product and country-by-country basis, the period from the First Commercial Sale of such Licensed Product in such country until **[***].**

1.56 **"Senior Executive**" means a member of senior management of a Party who is designated by such Party to resolve disputes under this Agreement.

1.57 **"Subcontract**" means any contract entered between Merck and a Third Party ("**Subcontractor"**) and that relates to services to be provided by the Subcontractor on Merck's behalf and at Merck's request in connection with the research, Development, manufacture, Commercialization, sale or importation of the Licensed Product.

1.58 **"Sublicensee"** means a Person other than an Affiliate of Merck to which Merck (or its Affiliate) has, pursuant to Section 2.2, granted sublicense rights under any of the license rights granted under Section 2.1. "**Sublicense**" shall be construed accordingly.

1.59 **"Tax"** or **"Taxes"** means any federal, state, local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax of any kind whatsoever, including any interest, penalty, or addition thereto, whether disputed or not.

1.60 **"Territory"** means worldwide.

1.61 **"Third Party"** means any Person other than Licensor, Merck or Affiliates of either of them, or any Sublicensees.

1.62 **"Third Party Action"** means any claim or action made by a Third Party against either Party that claims that a Licensed Product, or its use, Development, manufacture or sale infringes such Third Party's intellectual property rights within the scope of the Licensed Technology.

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1.63 "**Third Party License Agreement**" means any agreement entered into with a Third Party, or any amendment or supplement thereto, whereby royalties, fees or other payments are to be made to such Third Party in connection with the grant of rights under intellectual property rights Controlled by a Third Party, which rights are necessary and/or useful to research, Develop, manufacture, have made, import, export, use or Commercialize a Licensed Product.

1.64 **"United States"** or **"US"** or "USA" means the United States of America, its territories and possessions.

1.65 "**Valid Claim**" means a claim of an issued and unexpired patent which has not lapsed or been revoked, abandoned or held unenforceable or invalid by a final decision of a court or governmental or supra-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 or unenforceable through reissue, reexamination or disclaimer or otherwise.

1.66 **Other Terms**. The definition of each of the following terms is set forth in the section of the Agreement indicated below:

"Action" has the meaning set forth in Section 6.5(b).

"Controlling Party" has the meaning set forth in Section 6.6(c).

"Cure Period" has the meaning set forth in Section 10.3(b).

"Development Plan" has the meaning set forth in Section 3.1.

"Licensor Indemnitees" has the meaning set forth in Section 9.1.

"Merck Indemnitees" has the meaning set forth in Section 9.2.

"**Non-Escalable Dispute"** has the meaning set forth in Section 11.1.

"**Right of First Refusal**" has the meaning set forth in Section 10.5(b).

"Right of First Refusal Notice Period" has the meaning set forth in Section 10.5(b).

"Term" has the meaning set forth in Section 10.1.

ARTICLE 2
LICENSES AND OTHER RIGHTS

2.1 **Grant of License to Merck**. Subject to the terms and conditions of this Agreement, Licensor hereby grants to Merck and its Affiliates an exclusive (even

as to Licensor), worldwide, royalty-bearing right and license (with the right to sublicense, and to further sublicense, subject to the provisions of Section 2.2) under the Licensor Technology to research, Develop, manufacture, have manufactured, use and Commercialize the Licensed Products. For the avoidance of doubt, with respect to the part of the Licensor Technology which becomes Controlled by the Licensor after the Effective Date, in cases where such Licensor Technology consists of a non-exclusive license granted to Licensor by a Third Party, Merck will be only granted a non-exclusive license.

2.2 **Grant of Sublicense by Merck**. Merck shall have the right, in its sole discretion, to grant sublicenses, in whole or in part, under the license granted in Section 2.1, provided however that the granting by Merck of a Sublicense shall not relieve Merck of any of its obligations hereunder; and Merck shall impose upon its Sublicensees obligations which are consistent with this Agreement.

2.3 **Technology Transfer.** As soon as reasonably practicable after the Effective Date, but in no event later than [***] days following the Effective Date, Licensor will communicate and transfer to Merck, at Licensor's cost and expense, all Licensor Know-How and Licensor Materials. Merck shall confirm in writing having received all of the Licensor Know-How and Licensor Materials.

2.4 **Procedures for Technology Transfer**. The technology transfers set forth in Section 2.3 shall occur in an orderly fashion and in a manner such that the value, usefulness and confidentiality of the transferred Licensor Know-How and Licensor Materials are preserved in all material respects. During the Term, Licensor shall provide to Merck full and prompt disclosure, but in no event less frequently than semi-annually, of any Licensor Know-How or Licensor Materials that become Controlled by Licensor or any of its Affiliates after the Effective Date and shall promptly following such disclosure transfer and in an orderly fashion, communicate to Merck such Licensor Know-How and such Licensor Materials.

2.5 **Merck Exclusivity**. Licensor and its Affiliates shall not during the Term develop, manufacture, have manufactured, use, sell, offer for sale, import or export a Competing Product nor enter into any relationship with any Third Party with respect thereto. The aforementioned restriction shall remain in effect in the event of Change of Control of Licensor and shall also apply to the successor and assignee of Licensor (other than to any activities of such successor/assignee already in existence as of the date of the Change of Control). **[***]**.

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ARTICLE 3
DEVELOPMENT, MANUFACTURE AND COMMERCIALIZATION OF LICENSED PRODUCTS

3.1 **Development of the Licensed Product by Merck**. Merck shall have the exclusive right, and sole responsibility and decision-making authority, to research and Develop any Licensed Products and to conduct (either itself or through its Affiliates, agents, Subcontractors and/or Sublicensees) all Clinical Trials and non-clinical studies Merck believes appropriate to obtain Regulatory Approval for the Licensed Products in any Indication. The Development of each Licensed Product shall be governed by a Merck development plan that accurately describes the proposed overall program of Development (the "**Development Plan**"), which Development Plan shall be updated by Merck **[***]**. Merck shall provide Licensor a copy of the Development Plan and all updates thereto within [***] days of creation. Merck shall have the sole right and responsibility for preparing the Development Plan for each Licensed Product, and shall in all events have the sole decision-making authority regarding each Development Plan and the Development of the Licensed Product, including the determination of the Indications in which to pursue Development. Merck shall, **[***]**, provide to Licensor an update report regarding the progress of the Development program.

3.2 **Commercialization**. Merck shall have the sole decision-making authority and responsibility and the exclusive right, to Commercialize any Licensed Products itself or through one or more Sublicensees or other Third Parties selected by Merck and shall have the sole decision-making authority and responsibility in all matters relating to the Commercialization of the Licensed Products. Merck shall, **[***]**, provide to Licensor an update report regarding the progress of the Commercialization program.

3.3 **Clinical and Commercial Manufacturing**. Merck shall have the exclusive right to manufacture any Licensed Product itself or through one or more Sublicensees or Subcontractors selected by Merck.

3.4 **Diligence by Merck.** Subject to Licensor's fulfillment of its obligations under this Agreement, Merck shall use Commercially Reasonable Efforts to **[***]**. Merck shall have the exclusive right to determine, in its sole discretion, **[***]**, subject to its exercise of Commercially Reasonable Efforts and the availability of any necessary Third Party licenses or other rights. Activities by Merck's Affiliates and Subcontractors and Sublicensees will be considered as Merck's activities under this Agreement for purposes of determining whether Merck has complied with any obligation to use Commercially Reasonably Efforts.

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3.5 **Right to Subcontract of Merck**. Merck may exercise any of the rights or obligations that Merck may have under this Agreement (including, without limitation, any of the rights licensed in Section 2.1 hereof) by entering into Subcontracts or Sublicenses relating to the exercise or performance of all or any portion of such rights and obligation. Any Subcontract or Sublicense granted or entered into by Merck as contemplated by this Section 3.5 or the exercise or performance of all or any portion of the rights or obligations that Merck may have under this Agreement shall not relieve Merck from any of its obligations under this Agreement.

3.6 **Trade Marks**. As between Licensor and Merck, Merck shall have the sole authority to select trademarks for the Licensed Products and shall own all such trademarks. This Section 3.6 does not grant Merck the right to use any Licensor trademarks.

ARTICLE 4
REGULATORY MATTERS

4.1 **Regulatory Filings.** As between Merck and Licensor, Merck shall own and maintain all regulatory filings and Regulatory Approvals for the Licensed Products, including all INDs and NDAs. Licensor shall provide reasonable assistance to Merck, its Affiliates and any Merck Sublicensee in the preparation and filing for any INDs or NDAs with respect to Licensed Products.

4.2 **Communications with Authorities.** Merck (or one of its Affiliates or Sublicensees) shall be responsible for and act as the sole point of contact for communications with Regulatory Authorities in connection with the Development, Commercialization, and manufacturing of Licensed Products. Following the Effective Date, Licensor shall not initiate, with respect to any Licensed Product, any meetings or contact with Regulatory Authorities without Merck's prior written consent. To the extent Licensor receives any written or oral communication from any Regulatory Authority relating to a Licensed Product, Licensor shall (i) refer such Regulatory Authority to Merck, and (ii) as soon as reasonably practicable, notify Merck and provide Merck with a copy of any written communication received by Licensor or, if applicable, complete and accurate minutes of such oral communication. At the request of Merck, Licensor shall make available to Merck, at no more than a reasonable charge, a qualified representative who shall, together with the representatives of Merck, participate in and contribute to meetings with the Regulatory Authorities with respect to regulatory matters relating solely to the Licensor Technology.

4.3 **Adverse Event Reporting.** Each Party agrees to comply with any and all Laws that are applicable to it as of the Effective Date and thereafter during the Term in connection with the Licensed Product safety data collection and reporting (and, if applicable, recalls). If the Licensor has or receives any information regarding

any Adverse Event, the Licensor shall provide Merck with all such information in English within such reasonable timelines which enable Merck to comply with the relevant regulations and requirements applicable in the relevant country. Merck shall report to Licensor any Adverse Event. The information exchanged between the Parties pursuant to this Section 4.3 shall be transmitted by e-mail or overnight courier to the following address (provided, that either Party may change such address by notice given pursuant to Section 12.12):

Transmission to Licensor:

Ligand Pharmaceuticals Incorporated
11085 North Torrey Pines Road
La Jolla, CA 92037
USA
Attention: General Counsel
Email: cberkman@ligand.com

Transmission to Merck:

Global Drug Safety
Merck KGaA
Frankfurter Strasse 250
D-64293 Darmstadt
Germany
Drug Safety mailbox:
GlobalDrugSafety@merckserono.net

ARTICLE 5
FINANCIAL PROVISIONS

5.1 **DPO Milestone Payment**. In partial consideration of Licensor's grant of the rights and licenses to Merck, Merck shall pay, or cause to be paid, to Licensor **[***]** within **[***]** days following the **[***].** For avoidance of doubt, this Section 5.1 milestone payment shall in no event be due later than the date of achievement of Section 5.2 milestone event n° 1.

5.2 **Development And Commercial Milestone Payments.** As further partial consideration for Licensor's grant of the rights and licenses, to Merck hereunder, Merck shall pay, or cause to be paid, to Licensor **[***]**. Merck shall promptly but in no event later than **[***]** days following each achievement of a milestone event, notify Licensor in writing of the achievement of any such milestone event, and shall pay the relevant milestone payment within **[***]** days following receipt of a corresponding invoice from Licensor.

	Milestone event [***]	**Milestone Payment (USD)**
1	[***]	[***]
2	[***]	[***]

	Milestone event payable [***]	**Milestone Payment (USD)**
3	[***]	[***]
4	[***]	[***]
5	[***]	[***]
6	[***]	[***]
7	[***]	[***]
8	[***]	[***]
9	[***]	[***]

For the avoidance of doubt, the total maximum milestone payments payable under this Section 5.2 for all Licensed Products and **[***]**.

*A milestone event that occurs in or with respect to **[***]**.

With respect to each milestone event, the milestone payments to be made under this Agreement shall be due and payable only once (**[***]**) as indicated, even if **[***]**.

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5.3 **[***] Payments.** As further partial consideration for Licensor's grant of rights and licenses to Merck hereunder, Merck shall pay Licensor the following **[***]** for the first achievement of the following **[***]** milestones by the first Licensed Product to achieve such milestones:

(a) **[***]** for the **[***]** in which the aggregate annual worldwide Net Sales **[***]** to achieve such milestone exceed **[***]**;

(b) **[***]** for the **[***]** in which the aggregate worldwide annual Net Sales **[***]** to achieve such milestone exceed **[***]**;

(c) [***] for the **[***]** in which the aggregate annual worldwide Net Sales **[***]** to achieve such milestone exceed **[***]**.

Merck shall deliver written notice to Licensor within **[***]** days of the end of the **[***]** in which a **[***]** milestone occurs. Merck shall deliver the corresponding **[***]** milestone payment to Licensor within **[***]** days of receipt of a corresponding invoice from Licensor for the **[***]** milestone payment set forth in the aforementioned written notice.

For the avoidance of doubt, each aforementioned commercial event milestone payment shall be made only once, regardless of the number of Licensed Products and Indications, or **[***]** in which the first Licensed Products achieve such commercial event milestone. **[***]**.

The achievement of a higher commercial event milestone shall trigger the payment of a lower commercial event milestone in the event such lower commercial event milestone had not been triggered prior to achievement of the higher commercial event milestone. **[***]**.

For the avoidance of doubt, the total maximum milestones payable under this Section 5.3 shall not exceed **[***]**.

5.4 **Royalty Payments for Licensed Products.**

(a) As further consideration for Licensor's grant of the rights and licenses to Merck hereunder, Merck shall, during each applicable Royalty Term, pay to Licensor a royalty on aggregate annual worldwide Net Sales **[***]** for each **[***]**, on **[***]** at the percentage rates set forth below (subject to Sections 5.4(b), 5.5, and 5.6 below):

Annual worldwide Net Sales of [***]	**[***] Royalty Rate**
[***]	**[***]** %
[***]	[***] %
[***]	**[***]** %

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These royalty rates shall be decreased by **[***]**, for Net Sales of any Licensed Product in any country in which a Valid Claim does not exist at the time the payment of royalties is due; and such **[***]** decrease shall persist for such Licensed Product in such country until **[***]**. For the avoidance of doubt, if for any Licensed Product in any country a Valid Claim does not exist at the time the payment of royalties is due, **[***]**, in such country (**[***]**), **[***]**.

[***]

By way of illustration, assume in a **[***]** that (i) aggregate worldwide annual Net Sales **[***]** in U.S. Dollars total USD **[***]** and (ii) no adjustments or deductions to payments under this Article 5 apply. The total royalties due and payable by Merck to Licensor for such Net Sales would be **[***]** U.S. Dollars (USD**[***]**), calculated as follows:

[***]

[***]

[***]

Total Royalty = USD **[***]**

(b) For purposes of determining whether a royalty threshold or a **[***]** milestone described in Section 5.3 above, has been attained, **[***]**. In addition, in no event shall the manufacture of a Licensed Product give rise to a royalty obligation until the particular unit of Licensed Product is sold by Merck, its Affiliates or Sublicensees to an unaffiliated Third Party purchaser. For clarity, Merck's obligation to pay royalties to Licensor under this Article 5.4 is imposed **[***]**.

In the event certain Net Sales are subject to the royalty reductions set forth in Section 5.4(a) above or Section 5.6 below, Merck shall calculate the royalty rates as follows: **[***]**.

5.5 **Compulsory License.** In the event that Licensor or Merck receives a request for a Compulsory License anywhere in the world, it shall promptly notify the other Party. If any Third Party obtains a Compulsory License in any country, then Licensor or Merck (whoever has first notice) shall promptly notify the other Party. For the avoidance of doubt, for purposes of calculating the royalties due to Licensor under Section 5.4 with respect to sales of the Licensed Product by any compulsory licensee, **[***]**. In addition, should Merck grant a Sublicense to

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a Third Party in any country to avoid the imposition of such a Compulsory License, the Parties will agree in good faith on the **[***]**.

5.6 **Reductions, Deductions and Reimbursements**. Subject to the terms herein, if Merck or its Affiliates enter into a Third Party License Agreement(s), or if a Merck Sublicensee enters into a Third Party License Agreement(s) under which Merck is directly financially responsible to reimburse the Sublicensee for such amounts, Merck will be entitled **[***]**. If the Third Party License Agreement also covers products other than the Licensed Product, Merck shall **[***]**.

5.7 **Timing of Payment.** Royalties payable under Section 5.4(a) shall be payable on **[***]** Net Sales and shall **[***]**. Royalty obligations that have accrued during a particular **[***]** shall be paid, on a **[***]** basis, within **[***]** days after the end of each [***] during which the royalty obligation accrued.

5.8 Mode of Payment and Currency.

(a) All payments to Licensor hereunder shall be made by deposit of US Dollars in the requisite amount to such bank account as Licensor may from time to time designate by written notice to Merck. With respect to sales not denominated in US Dollars, Merck shall convert each applicable **[***]** sales in foreign currency into US Dollars by using the then current and reasonable standard exchange rate methodology applied to its external reporting. Based on the resulting sales in US Dollars, the then applicable royalties shall be calculated**.** The Parties may vary the method of payment set forth herein at any time upon mutual agreement, and any change shall be consistent with the local Law at the place of payment or remittance.

(b) Invoices of Licensor shall be addressed to:

ARES Trading SA
Accounts Payable
Zone Industrielle
Case Postale 29
CH-1267 Coinsins
Attn: Mr Glyn Harris Email: glyn.harris@merckgroup.com

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With a copy to:

Merck Serono S.A.-Geneva
9, Chemin des Mines
1202 Geneva
Switzerland
Attn: Pascale Gaillard
Email:

5.9 **Royalty Reports and Records Retention**. Within **[***]** days after the end of each **[***]** during which the Licensed Products have been sold, Merck shall deliver to Licensor, together with the applicable royalty payment due, a written report, on a Licensed Product-by-Licensed Product and a country-by-country basis, of (i) **[***]** Licensed Product subject to royalty payments for such **[***]**, (ii) **[***]**, (iii) Net Sales subject to royalty payments for such **[***]** and **[***]** to date and (iv) corresponding royalty. Such report shall be deemed "Confidential Information" of Merck subject to the obligations of Article 7 of this Agreement. For **[***]** years after each sale of the Licensed Product, Merck shall keep (and shall ensure that its Affiliates and Sublicensees shall keep) complete and accurate records of such sale in sufficient detail to confirm the accuracy of the royalty calculations hereunder.

5.10 **Legal Restrictions**. If at any time applicable Laws prevent the remittance by Merck of all or any part of royalties on Net Sales in any country, Merck shall have the right and option to **[***]**.

5.11 **Late Payments**. All payments under this Agreement shall earn interest **[***]**.

5.12 **Audits**.

(a) During the Royalty Term and for **[***]** thereafter, upon the written request of Licensor, and not more than **[***]**, Merck shall permit, and shall cause its Affiliates or Sublicensees to permit, an independent certified public accounting firm of (US,German or Swiss) nationally recognized standing selected by Licensor, and reasonably acceptable to Merck or such Affiliate or Sublicensee, to have access to and to review, during normal business hours upon reasonable prior written notice, the applicable records of Merck and its Affiliates or Sublicensees to verify the accuracy of the royalty reports and payments under this Article 5. Such review may cover the records for sales made in any **[***]** ending not more than **[***]** years prior to the date of such request. The accounting firm shall disclose to Licensor and Merck only whether the royalty

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reports are correct or incorrect and the specific details concerning any discrepancies. No other information shall be provided to Licensor.

(b) If such accounting firm concludes that additional royalties were owed during such period, and Merck agrees with such calculation, Merck shall **[***]**. If such accounting firm concludes that an overpayment was made, such overpayment shall **[***]**. If Merck disagrees with such calculation, it may retain an independent certified public accounting firm of recognized standing accepted by Licensor, which consent shall not be unreasonably withheld or delayed, to conduct a review, and if such firm concurs with the other accounting firm, Merck shall **[***]**. If Merck's accounting firm does not concur, Merck and Licensor shall meet and negotiate in good faith a resolution of the discrepancies between the two firms. Licensor shall **[***].**

(c) Each Party shall treat all information that it receives under this Section 5.12 in accordance with the confidentiality provisions of Article 7 of this Agreement, and shall cause its accounting firm to enter into an acceptable confidentiality agreement with the other Party obligating such firm to retain all such financial information in confidence pursuant to such confidentiality agreement, except to the extent necessary for such Party to enforce its rights under the Agreement.

5.13 Taxes.

(a) **Withholding Tax.** Licensor shall be responsible for the payment of any and all Taxes levied on account of the royalties and other payments paid to Licensor by Merck or its Affiliates or Sublicensees under this Agreement. If applicable Law requires that Taxes be deducted and withheld from royalties or other payments paid under this Agreement, Merck shall **[***]**; provided, however, that **[***]**. Assuming that Licensor is the beneficial owner of Licensor Technology, the cooperation referred to in subparagraph (v) of the foregoing sentence shall include, without limitation, that Licensor shall provide Merck with a written confirmation from the competent tax authority that Licensor has its residence in USA together with any required tax application form which would allow the Parties to benefit from the reduced withholding Tax rate set forth in the Double Taxation Convention existing between USA and Switzerland or in case of any assignments with the respective country of residence of the company to which the contract has been assigned.

(b) **Value Added Tax.** All remuneration amounts set under this Agreement are net amounts. Value added tax, if applicable, will have to be added on those amounts. Merck is entitled to receive a proper tax invoice if any value added tax is applicable.

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ARTICLE 6
INVENTIONS AND PATENTS

6.1 Certification Under Drug Price Competition and Patent Restoration Act. Each Party shall immediately give written notice to the other Party of any certification of which they become aware filed pursuant to 21 U.S.C. Section 355(b)(2)(A) (or any amendment or successor statute thereto) claiming that any Licensor Patents covering a Compound or a Licensed Product, or the manufacture or use of each of the foregoing, are invalid or unenforceable, or that infringement will not arise from the manufacture, use or sale in the US of a Licensed Product by a Third Party.

6.2 Listing of Patents. Merck shall have the sole right to determine which of the Licensor Patents, if any, shall be listed for inclusion in the Approved Drug Products with Therapeutic Equivalence Evaluations pursuant to 21 U.S.C. Section 355, or any successor Law in the United States, together with any comparable Laws in any other country.

6.3 Further Assurances. Licensor shall require all of its employees, and use its Commercially Reasonable Efforts to require its contractors and agents, and any Affiliates and Third Parties working on its behalf under this Agreement (and their respective employees, contractors and agents), to assign to Licensor any Licensor Technology.

6.4 Patent Prosecution and Maintenance.

(a) Licensor Patents. Licensor shall have the first right, and (subject to Section 6.4(b)) shall have the obligation, to file, prosecute and maintain Licensor Patents in Licensor's name. Licensor shall [***]. Licensor shall keep Merck informed of the course of the filing and prosecution of Licensor Patents or related proceedings (e.g. interferences, oppositions, reexaminations, reissues, revocations or nullifications) in a timely manner. Merck shall have the right to give advice and recommendations in the course of filing and prosecution of Licensor Patents or related proceedings (e.g. interferences, oppositions, reexaminations, reissues, revocations or nullifications). **[***]**. At Licensor's request, Merck will provide Licensor with reasonable free-of-charge assistance in prosecuting Licensor Patents to the extent possible.

(b) Election not to file and prosecute Licensor Patents. If Licensor elects not to file, prosecute or maintain a Licensor Patent in Licensor's name in any jurisdiction in the Territory, then it shall notify Merck in writing at least **[***]** before any deadline applicable to the filing, prosecution or maintenance of such Licensor Patent, as the case may be, or any other date by which an action must

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be taken to establish or preserve such Licensor Patent in such jurisdiction. In such case, Merck shall have the option to pursue the filing or support the continued prosecution or maintenance of such Licensor Patent in such jurisdiction, **[***].**

(c) **Patent Term Extension**. Licensor shall (subject to Section 6.4(b)) have the obligation and be responsible, in Licensor's name, for obtaining patent term extensions wherever available for Licensor Patents. Merck shall provide Licensor free-of-charge with all relevant information, documentation and assistance in this respect as may reasonably be requested by Licensor. Any such assistance, supply of information and consultation shall be provided promptly and in a manner that will ensure that all patent term extensions for Licensor Patents are obtained wherever legally permissible, and to the maximum extent available. In the event that any election with respect to obtaining patent term extensions is to be made, Licensor shall have the right to make such elections but shall be obliged to consult Merck for its advice and recommendations which Licensor covenants to take into account.

6.5 Enforcement of Patents.

(a) **Notice.** If either Party believes that a Licensor Patent is being infringed by a Third Party or if a Third Party claims that any Licensor Patent is invalid or unenforceable, the Party possessing such knowledge or belief shall notify the other Party and provide it with details of such infringement or claim that are known by such Party.

(b) **Right to bring an Action.** **[***]** shall have the exclusive right to attempt to resolve such infringement or claim, including by filing an infringement suit, defending against or bringing a declaratory judgment action as to such claim or taking other similar action (each, "initiation" of an "**Action**") and (subject to Section 6.5(d)) to compromise or settle such infringement or claim. At **[***]** request, **[***]** shall immediately provide **[***]** with all relevant documentation (as may be requested by **[***]**) evidencing that **[***]** is validly empowered by **[***]** to initiate an Action. **[***]** does not initiate an Action with respect to such an infringement or claim within **[***]** days following notice thereof, **[***]** shall have the right to attempt to resolve such infringement or claim, including by initiating an Action, and (subject to Section 6.5(d)) to compromise or settle such infringement or claim. The Party initiating such Action shall have the sole and exclusive right to select counsel for any suit initiated by it pursuant to this Section 6.5. If a Party initiates an Action but then elects not to pursue the Action, it shall so notify the other Party, and such other Party shall have the right (but not the obligation) to take over the Action, in which case such other Party shall be deemed to have been the initiating Party.

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(c) **Costs of an Action.** Subject to the respective indemnity obligations of the Parties set forth in Article 9, **[***]**; provided that if **[***]** is the Party who is taking such Action, **[***]**. Each Party shall have the right to join at its own expense an Action relating to a Licensor Patent, initiated by the other Party.

(d) **Settlement**. [***]. The settlement will be treated, for the purposes of Section 5.13, in accordance with the Law of the country to which the settlement relates.

(e) **Reasonable Assistance.** The Party not enforcing or defending Licensor Patents shall provide reasonable assistance to the other Party, including providing access to relevant documents and other evidence and making its employees available, subject to the other Party's reimbursement of any out-of-pocket expenses incurred on an on-going basis by the non-enforcing or non-defending Party in providing such assistance.

(f) **Distribution of Amounts Recovered.** Any amounts recovered by the Party initiating an Action pursuant to this Section 6.5, whether by settlement or judgment, shall be allocated in the following order: **[***]**.

6.6 **Third Party Actions Claiming Infringement.**

(a) **Notice**. If a Party becomes aware of any Third Party Action, such Party shall promptly notify the other Party of all details regarding such claim or action that is reasonably available to such Party.

(b) **Right to Defend.** **[***]** shall have the right, at its sole expense, but not the obligation, to defend a Third Party Action described in Section 6.6(a) and (subject to Section 6.6(f)) to compromise or settle such Third Party Action. If Merck declines or fails to assert its intention to defend such Third Party Action within **[***]** days of receipt/sending of notice under Section 6.6(a), then **[***]** shall have the right to defend such Third Party Action and (subject to Section 6.6(f)) to compromise or settle such Third Party Action. The Party defending such Third Party Action shall have the sole and exclusive right to select counsel for such Third Party Action.

(c) **Consultation.** The Party defending a Third Party Action pursuant to Section 6.6(b) shall be the **"Controlling Party"**. The Controlling Party shall consult with the non-Controlling Party on all material aspects of the defense. The non-Controlling Party shall have a reasonable opportunity for meaningful participation in decision-making and formulation of defense strategy. The Parties shall reasonably cooperate with each other in all such actions or proceedings. The non-Controlling Party will be entitled to be represented by independent counsel of its own choice at its own expense.

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(d) **Appeal**. In the event that a judgment in a Third Party Action is entered against either Party and an appeal is available, the Controlling Party shall have the first right, but not the obligation, to file such appeal. In the event the Controlling Party does not desire to file such an appeal, it will promptly, in a reasonable time period (i.e. with sufficient time for the non-Controlling Party to take whatever action may be necessary) prior to the date on which such right to appeal will lapse or otherwise diminish, permit the non-Controlling Party to pursue such appeal at such non-Controlling Party's own cost and expense. If applicable Law requires the other Party's involvement in an appeal, the other Party shall be a nominal party of the appeal and shall provide reasonable cooperation to such Party at such Party's expense.

(e) **Costs of an Action**. Subject to the respective indemnity obligations of the Parties set forth in Article 9, the Controlling Party shall pay all costs associated with such Third Party Action other than the expenses of the other Party if the other Party elects to join such Third Party Action (as provided in the last sentence of Section 6.6(c)). [***]. Each Party shall have the right to join a Third Party Action defended by the other Party, at its own expense.

(f) **No Settlement Without Consent.** Neither Party shall settle or otherwise compromise any Third Party Action by admitting that any Licensor Patent is to any extent invalid or unenforceable without the other Party's prior written consent, and, **[***]**.

ARTICLE 7
CONFIDENTIALITY

7.1 **Confidentiality Obligations.** Each Party agrees that, for the Term and for **[***]** years thereafter, such Party shall, and shall ensure that its officers, directors, employees and Subcontractors shall keep completely confidential and not publish or otherwise disclose and not use for any purpose except as expressly permitted hereunder any Confidential Information disclosed to it by the other Party pursuant to this Agreement. The foregoing obligations shall not apply to any Confidential Information disclosed by a Party hereunder to the extent that the receiving Party can demonstrate that such Confidential Information:

(a) was already known to the receiving Party or its Affiliates, other than under an obligation of confidentiality, at the time of disclosure;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving Party;

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(c) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party (or its Subcontractors) in breach of this Agreement;

(d) was subsequently lawfully disclosed to the receiving Party or its Affiliates by a Third Party without an obligation of confidentiality other than in contravention of a confidentiality obligation of such Third Party to the disclosing Party; or

(e) was developed or discovered by employees or agents of the receiving Party or its Affiliates who had no access to the Confidential Information of the disclosing Party.

Notwithstanding the above obligations of confidentiality and non-use, a Party may disclose information to the extent that such disclosure is reasonably necessary in connection with:

(i) filing or prosecuting patent applications, subject to the terms of Section 6.4;

(ii) prosecuting or defending litigation;

(iii) conducting pre-clinical studies or Clinical Trials pursuant to this Agreement;

(iv) seeking Regulatory Approval of the Licensed Product; or

(v) complying with applicable Law, including securities Law and the rules of any securities exchange or market on which a Party's securities are listed or traded.

In addition to the foregoing, Merck may, in furtherance of its rights under this Agreement, disclose Confidential Information of Licensor to any Third Party, provided that such Third Party is bound by obligations of confidentiality/nonuse at least as stringent as the ones herein. Merck shall be responsible to Licensor for any breach of confidentiality/nonuse by such Third Parties.

In making any disclosures set forth in clauses (i) through (v) above, the disclosing Party shall, where reasonably practicable, give such advance notice to the other Party of such disclosure requirement as is reasonable under the circumstances and will use its reasonable efforts to cooperate with the other Party in order to secure confidential treatment of such Confidential Information required to be disclosed. In addition, in connection with any permitted filing by either Party of this Agreement with any Governmental Body, included but not limited to the U.S. Securities and Exchange Commission, the filing Party shall endeavor to obtain confidential treatment of economic, trade secret information and such other information as may be requested by the other Party, and shall provide the other Party with the proposed confidential treatment request with reasonable time for such other Party to provide comments, and shall include in such confidential treatment request all reasonable comments of the other Party.

A breach after the Effective Date by a Party (or for which a Party undertook responsibility) of the surviving confidentiality/nonuse provisions of the Research License and Option Agreement shall be deemed also to be a breach of this Agreement.

7.2 Publications. Licensor shall not publish any information relating to the Licensed Products without the written consent of Merck (which consent may be withheld or given in Merck's sole discretion), unless such information has already been publicly disclosed either prior to the Effective Date or after the Effective Date through no fault of Licensor or otherwise not in violation of this Agreement. Merck shall have the right to make such publications as it chooses, in its sole discretion, without the approval of Licensor. Licensor shall submit to Merck for Merck's written approval (which approval be granted or denied in Merck's sole discretion) any publication or presentation (including, without limitation, in any seminars, symposia or otherwise) of information related directly or indirectly to the Licensed Products for review and approval at least [***] days prior to submission for the proposed date of publication or presentation. For the avoidance of doubt, Merck shall not disclose in any publication or presentation (including, without limitation, in any seminars, symposia or otherwise) the Licensor's Confidential Information. For avoidance of doubt any press release or disclosure mentioned in Section 7.3 shall not be considered as "Publications" governed by such Section 7.2.

7.3 Press Releases and Disclosure.

Except as required to comply with applicable Law, Licensor may not make press releases or public announcements regarding this Agreement or any matter covered by this Agreement, including the Development or Commercialization of Licensed Products, without the prior written consent of Merck.

Merck shall have the right to make such press releases as it chooses, in its sole discretion, without the approval of Licensor; provided, that Merck shall provide Licensor with at least **[***]** hours' advance notice of any such press release and Merck covenants to take into account any reasonable advice and recommendations of Licensor.

ARTICLE 8
REPRESENTATIONS, WARRANTIES AND COVENANTS

8.1 Representations and Warranties. Each Party represents and warrants to the other Party that, as of the Effective Date:

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(a) such Party is duly organized and validly existing under the Laws of the jurisdiction of its incorporation or organization;

(b) such Party has taken all action necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement;

(c) this Agreement is a legal and valid obligation of such Party, binding upon such Party and enforceable against such Party in accordance with the terms of this Agreement, except as enforcement may be limited by applicable bankruptcy, fraudulent conveyance, insolvency, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles; and the execution, delivery and performance of this Agreement by such Party does not conflict with, breach or create in any Third Party the right to accelerate, terminate or modify any agreement or instrument to which such Party is a party or by which such Party is bound, and does not violate any Law of any Governmental Body having authority over such Party; and

(d) such Party has all right, power and authority to enter into this Agreement, and to perform its obligations under this Agreement.

8.2 Additional Representations and Warranties of Licensor As of the Effective Date of this Agreement. Licensor represents and warrants to Merck that, as of the Effective Date:

(a) No consent by any Third Party or Governmental Body is required with respect to the execution and delivery of this Agreement by Licensor or the consummation by Licensor of the transactions contemplated hereby;

(b) Licensor has not developed, subcontracted or licensed to a Third Party the right to develop a Competing Product;

(c) it has the full right to provide the Licensor Materials to Merck and to transfer to Merck the Licensor Materials to be provided to Merck pursuant to this Agreement;

(d) all employees of Licensor who have performed any activities on its behalf in connection with research regarding the Compounds have assigned to Licensor the whole of their rights in any intellectual property made, discovered or developed by them as a result of such research, and no Third Party has any rights to any such intellectual property; and

(e) Licensor has all right, title and interest in and to the Licensor Technology. Licensor has not previously licensed, assigned, transferred, or otherwise conveyed any right, title or interest in and to the Licensor Technology to any Third Party, including but not limited to any rights to any Licensed Products; the Licensor Technology is free and clear of any liens, charges encumbrances or rights of others to possession or use.

8.3 **Additional Representations and Warranties of Licensor**. As of the effective date of the Research License and Option Agreement, Licensor represents and warrants to Merck that, as of the effective date of the Research License and Option Agreement:

(a) **[***];**

(b) **[***];**

(c) **[***];**

(d) **[***];**

(e) **[***];**

(f) **[***];**

(g) **[***];**

(h) **[***];** and

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

Licensor shall notify Merck before executing this Agreement of which representations and warranties listed under this Section 8.3 would be untrue or incorrect in any material respect if made on and as of the Effective Date (of this Agreement), and stating why. Upon such notification, such representations and warranties shall automatically be deemed to be amended and updated, and the corresponding schedules and annexes of the Agreement shall automatically be deemed to be amended and updated accordingly. If such notification is given after Merck exercises the Option under the Research License and Option Agreement but before Merck executes and delivers this Agreement, Merck will be entitled to refuse to execute and deliver this Agreement, or else negotiate in good faith amendments to some terms of the Agreement.

8.4 **Licensor Covenants**. Licensor covenants to Merck that Licensor shall not amend or waive, or take any action or omit to take any action that would alter, any of Licensor's rights under any agreement with any Third Party in any manner that adversely affects, or would reasonably be expected to adversely affect, Merck's rights and benefits under this Agreement. Licensor shall promptly notify Merck of any default under, termination or amendment of, any agreement with any

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Third Party which default, termination or amendment would reasonably be expected to adversely affect Merck's rights and benefits under this Agreement.

ARTICLE 9
INDEMNIFICATION AND INSURANCE

9.1 Indemnification by Merck. Merck shall indemnify, defend and hold Licensor and its Affiliates and each of their respective employees, officers, directors and agents (the "**Licensor Indemnitees**") harmless from and against any and all actions, judgments, settlements, liability, damage, loss, cost or expense (including reasonable attorneys' fees) to the extent arising out of Third Party claims or suits related to (a) [***]; provided, however, that Merck's obligations pursuant to this Section 9.1 shall not apply (i) to the extent such claims or suits result from the **[***]**, or (ii) with respect to claims or suits arising out of breach by Licensor of its representations, warranties or covenants set forth in Article 8.

9.2 Indemnification by Licensor. Licensor shall indemnify, defend and hold Merck and its Affiliates and each of their respective agents, employees, officers and directors (the "**Merck Indemnitees**") harmless from and against any and all actions, judgments, settlements, liability, damage, loss, cost or expense (including reasonable attorney's fees) to the extent arising out of Third Party claims or suits related to (a) **[***]**; or (b) **[***]**; provided, however, that Licensor's obligations pursuant to this Section 9.2 shall not apply (i) to the extent that such claims or suits result from the **[***]** or (ii) with respect to claims or suits arising out of a breach by Merck of its representations or warranties set forth in Article 8 or (iii) **[***]**.

9.3 No Consequential Damages. IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS AFFILIATES BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING LOSS OF PROFITS, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREIN OR ANY BREACH HEREOF.

9.4 Notification of Claims; Conditions to Indemnification Obligations. As a condition to a Party's right to receive indemnification under this Article 9, it shall (a) promptly notify the other Party as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant hereto, (b) cooperate, and cause the individual indemnitees to cooperate, with the indemnifying Party in the defense, settlement or compromise of such claim or suit, and (c) permit the

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indemnifying Party to control the defense, settlement or compromise of such claim or suit, including the right to select defense counsel. Without prejudice to Section 12.1, in no event, however, may the indemnifying Party compromise or settle any claim or suit without the prior written consent of the indemnified Party; provided, that **[***]**. The indemnifying Party shall have no liability under this Article 9 with respect to claims or suits settled or compromised without its prior written consent.

9.5 Insurance. During the Term, each Party shall obtain and maintain, at its sole cost and expense, product liability insurance (including any self-insured arrangements) in amounts, that are reasonable and customary in the United States pharmaceutical and biotechnology industry for companies engaged in comparable activities. It is understood and agreed that this insurance shall not be construed to limit either Party's liability with respect to its indemnification obligations hereunder. Each Party will, except to the extent self-insured, provide to the other Party upon request a certificate evidencing the insurance such Party is required to obtain and keep in force under this Section 9.5.

ARTICLE 10
TERM AND TERMINATION

10.1 Term and Expiration. The term of this Agreement (the **"Term"**) shall commence on the Effective Date and, unless earlier terminated as provided in this Article 10, shall continue in full force and effect, on a country-by-country and Licensed Product-by-Licensed Product basis until the Royalty Term in such country with respect to such Licensed Product expires, at which time this Agreement shall expire in its entirety with respect to such Licensed Product in such country and the terms of Section 10.4(b)(i) shall apply.

10.2 Termination of the Agreement by Merck for Convenience. At any time during the Term, Merck may, at its convenience, terminate this Agreement in its entirety upon sixty (60) days' prior written notice to Licensor. During the aforementioned notice period, Merck shall be relieved from its obligations under Section 3.4.

10.3 Termination upon Material Breach.

(a) If a Party breaches any of its material obligations under this Agreement, the Party not in default may give to the breaching Party a written notice specifying the nature of the default, requiring it to cure such breach, and stating its intention to terminate this Agreement if such breach is not cured within ninety (90) days. If such breach is not cured within ninety (90) days after the receipt of such notice, the Party not in default shall be entitled to terminate this Agreement immediately by written notice to the other Party.

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(b) If Licensor is the defaulting party and a material breach by Licensor is not cured within ninety (90) days of receipt of a notice from Merck as provided under this Section 10.3(a) (the "**Cure Period**"), Merck may elect not to terminate this Agreement, and Merck may :

- **[***]**, and

- **[***].**

(c) In the event that Merck fails to fulfill its obligations under Section 3.4 (and does not cure such failure as provided in Section 10.3(a)), Licensor's sole and exclusive remedy shall be to terminate this Agreement as provided in Section 10.3(a).

(d) Any dispute regarding an alleged material breach of this Agreement shall be resolved in accordance with Article 11 hereof.

10.4 Effects of termination

(a) Survival.

(i) Articles 1 (Definitions), 9 (Indemnification and Insurance) and 11 (Dispute Resolution), and Sections 5.5 (Compulsory License), 5.9 (Royalty Reports and Records Retention**)**, 5.10 (Legal Restrictions), 5.11 (Late Payments), 5.12 (Audits), 5.13 (Taxes), 7.1 (Confidentiality Obligations), 10.4 (Effects of Termination), 12.11 (Governing Law) and 12.12 (Notices and Deliveries) hereof shall survive the expiration or termination of this Agreement for any reason.

(ii) Termination or expiration of this Agreement shall not relieve the Parties of any liability that accrued hereunder prior to the effective date of such termination or expiration. In addition, except as set forth in Section 10.3(c), termination or expiration of this Agreement shall not preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation.

(b) Licenses.

(i) Upon expiration of the Royalty Term with respect to any Licensed Product in any country, then as of the effective date of such expiration and on a country-by-country basis, the license from Licensor to Merck under Section 2.1 shall convert to a fully paid, royalty free, irrevocable, perpetual, exclusive, and sublicensable license under the Licensor Technology to research, develop, manufacture, have manufactured, use and Commercialize such Licensed Product.

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(ii) Upon termination of this Agreement by Merck pursuant to Section 10.2 or by Licensor pursuant to Section 10.3:

(1) all licenses granted to Merck under Sections 2.1 and 10.4(b)(i) shall terminate;

(2) Merck shall, upon written request by Licensor and subject to Licensor assuming legal responsibility for any Clinical Trials of the Licensed Product then ongoing, transfer to Licensor (a) at **[***],** all regulatory documentation and Regulatory Approvals prepared or obtained by or on behalf of Merck prior to the date of such termination, to the extent solely related to Licensed Products and transferable, and Merck shall have the right to retain one copy of such transferred documentation and Regulatory Approvals for record-keeping purposes;

(3) Merck shall, upon written request of Licensor, return to Licensor or, at Merck's option, destroy, (a) [***], all relevant records and materials in its possession or control containing or comprising the Licensor Know-How and the Licensor Materials, and all other Confidential Information of Licensor, and Merck shall have the right to retain one copy of such Licensor Know-How and one sample of Licensor Materials and such other Confidential Information of Licensor for record-keeping purposes.

(4) Upon Licensor's request made **[***]** days after the termination date of the Agreement, Merck shall **[***]**. Any clinical supplies of Licensed Products or other materials **[***]**. If Licensor has made no such written request within **[***]** days after such termination, Merck may, at its sole option and discretion, (i) destroy or retain any and all chemical, biological or physical materials relating to or comprising the Licensed Products, including clinical supplies of Licensed Products, that are controlled by Merck, or (ii) sell such materials to a Third Party, subject to Section 10.4(b)(ii)(6).

(5) To the extent not prohibited by Law, Merck shall wind down any ongoing clinical trials with respect to each Licensed Product, or at Licensor's option, transfer such Clinical Trials to Licensor (or to an Affiliate or Subcontractor of Licensor as Licensor may direct and if this request is reasonable for Merck), (a) **[***].** In the event of such transfer, Licensor shall **[***]**. Also, in the event of such transfer, Merck shall assign and transfer to Licensor (or to an Affiliate or Subcontractor of Licensor as Licensor may direct and if this request is reasonable for Merck) the clinical trials data and analyses and regulatory filings.

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(6) If Licensor does not **[***]** Section 10.4(b)(ii)(4), Merck and its Affiliates shall be entitled, during the **[***]** month period following such termination, to sell on the normal business terms in existence prior to such termination, any commercial inventory of Licensed Products which remains on hand as of the date of the termination, provided that Merck shall pay to Licensor the royalties and commercial milestone payments applicable to said subsequent sales in accordance with the terms and conditions set forth in this Agreement. Any commercial inventory remaining following such **[***]** month period shall then be **[***]**, as near as may be as provided for in Section 10.4(b)(ii)(4). It is understood that if Licensor does not accept such offer Merck may, at its sole option and discretion, destroy or retain such commercial inventory remaining following such **[***]** month period, but shall have no license enabling it to sell such materials to a Third Party.

(7) Merck shall, at Licensor's option, assign the trademarks owned by Merck relating to the Licensed Products (but not including any trademarks which contain the words "Merck" or "Serono") to Licensor or otherwise transfer rights to such trademarks to Licensor, upon commercially reasonable terms.

(8) At Licensor's request, Merck shall grant to the Licensor upon commercially reasonable terms **[***]**. For the avoidance of doubt, such obligation to negotiate in good faith does not impose on either Party an obligation to enter into an agreement for the grant of such a license if the Parties cannot agree through such good faith negotiations on the terms and conditions of such license.

(9) If the parties cannot agree as to the terms for a Section 10.4(b)(ii)(7) or 10.4(b)(ii)(8) transaction, the Parties shall submit their respective proposed terms to final and binding arbitration in New York with an independent expert (who shall be a retired pharmaceutical industry executive) agreed upon by both Parties or, failing such agreement, designated by the International Chamber of Commerce. Such arbitrator shall select verbatim whichever of such submissions is decided by him to be nearer to commercially reasonable terms or, as the case may be, to customary terms, and such determination shall be final and binding upon the Parties. The arbitrator shall not be empowered to apply any terms other than one or the other of the respective Parties' entire submissions.

(iii) Upon termination of this Agreement by Merck pursuant to Section 10.3, subsections (1) through (6) of Section 10.4(b)(ii) shall apply as if set forth in full in this Section 10.4(b)(iii), except that in subsection (4) the figure **[***]**. In addition to that upon termination of this Agreement by Merck pursuant to Section 10.3 subsections (7) through 9) of Section 10.4(b)(ii) shall not apply.

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(iv) Upon any termination of this Agreement, each of Merck's Sublicensees shall continue to have the rights and license set forth in its sublicense agreements, which agreements shall be automatically assigned to Licensor, provided however, that such Sublicensee is not then in breach of any of its material obligations under its sublicense agreement.

(v) Immediately following Merck's notification of termination to Licensor, the diligence obligations in Section 3.4 shall no longer apply and Merck shall have the right to wind-down all then on-going Development, manufacturing and/or Commercialization activities.

10.5 Bankruptcy or Insolvency.

(a) All rights and licenses granted under or pursuant to this Agreement by Licensor are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, if applicable, licenses of right to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The Parties agree that Merck, as licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code. To the extent allowed by Law, Merck shall be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, which, if not already in Merck's possession, shall be promptly delivered to it (i) upon any such commencement of a bankruptcy proceeding upon Merck's written request therefor, unless Licensor elects to continue to perform all of its obligations under this Agreement or (ii) if not delivered under clause (i), following the rejection of this Agreement by Licensor upon written request therefor by Merck.

(b) In addition to the foregoing, in the event of a Licensor Bankruptcy Event, Merck shall, to the extent allowed by Law, have **[***]** as follows:

[***]

[***]

ARTICLE 11
DISPUTE RESOLUTION

11.1 Disputes. The Parties recognize that disputes as to certain matters may from time to time arise during the Term which relate to either Party's rights and/or obligations hereunder. It is the objective of the Parties to establish under this Article 11 procedures to facilitate the resolution of disputes arising under this Agreement (other than any disputes relating to matters which under this

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Agreement Merck has sole decision-making authority and/or discretion (a "**Non-Escalable Dispute**"), in which case, such matter shall be determined by Merck and shall not be part of the dispute resolution procedure set forth in Article 11) in an expedient manner by mutual cooperation and without resort to litigation. In the event that the Parties are unable to resolve such dispute through diligent review and deliberation by the Senior Executives within **[***]** days from the day that one Party had designated the issue as a dispute in written notice to the other Party's Senior Executive, then either Party shall have the right to escalate such matter to senior management as set forth in Section 11.2.

11.2 Escalation to Executive Officers. Either Party may, by written notice to the other Party, request that a dispute (other than a Non-Escalable Dispute) that remained unresolved by the Senior Executives for a period of **[***]** days as set forth in Section 11.1 arising between the Parties in connection with this Agreement, or a dispute relating to material breach, be resolved by the Parties' respective Executive Officers, within **[***]** days of their first consideration of such dispute. If the Executive Officers cannot resolve such dispute within **[***]** days of their first consideration of such dispute, then, at any time after such **[***]** days period, either Party may proceed to enforce by application of Section 12.11 any and all of its rights with respect to such dispute. Notwithstanding the foregoing, nothing in this Section 11.2 shall be construed as precluding a Party from bringing an action for injunctive relief or other equitable relief prior to the initiation or completion of the above procedure.

ARTICLE 12
MISCELLANEOUS PROVISIONS

12.1 Relationship of the Parties. Nothing in this Agreement is intended or shall be deemed to constitute a partnership, agency, joint venture or employer-employee relationship between the Parties. Except as otherwise expressly set forth in the Agreement, neither Party shall have any right nor authority to commit or legally bind the other Party in any way whatsoever including, without limitation, the making of any agreement, representation or warranty and each Party agrees to not purport to do so.

12.2 Assignment.

(a) Except as expressly provided herein, neither this Agreement nor any interest hereunder shall be assignable, nor any other obligation delegable, by Licensor without the prior written consent of Merck (not to be unreasonably withheld or delayed). Notwithstanding the foregoing, Licensor may assign this Agreement or delegate its obligations in whole without the consent of Merck to a successor

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to substantially all of the business of Licensor to which this Agreement relates, or in connection with any merger, sale of stock, sale of assets or other similar transaction.

(b) Merck may assign this Agreement, in whole or in part, to any Affiliate or Third Party without the consent of Licensor. Merck shall give written notice to Licensor promptly following any such assignment.

(c) No assignment under this Section 12.2 shall relieve the assigning party of any of its responsibilities or obligations hereunder and provided, further, that as a condition of such assignment, the assignee shall agree in writing to be bound by all obligations of the assigning party hereunder.

(d) This Agreement shall be binding upon the successors and permitted assigns of the Parties.

(e) Any assignment not in accordance with this Section 12.2 shall be void.

(f) Licensor shall not assign or transfer any Licensed Technology to any of its Affiliates without the prior written consent of Merck.

(g) If, as a result of any assignment of any rights or interest in this Agreement, any payment by or on behalf of the assigning Party to the other Party is subject to an increased level of withholding tax than would have been the case otherwise under this Agreement and the other Party demonstrates that it cannot use any related tax credit to offset against its obligation to pay tax in the **[***]** in which the withholding is effected, the assigning Party shall pay the other Party an amount such that after deduction of any amount required to be withheld the other Party receives the same amount that it would have received before the assignment. If the other Party uses a related tax credit in a subsequent **[***]**, the other Party shall reimburse the assigning Party for the amount paid to the other Party by the assigning Party as a result of the withholding giving rise to such tax credit.

12.3 Performance by Affiliates. Merck shall have the right to have any of its obligations hereunder performed, or its rights hereunder exercised, by, any of its Affiliates and the performance of such obligations by any such Affiliate(s) shall be deemed to be performance by Merck; provided, however, that Merck shall be responsible for ensuring the performance of its obligations under this Agreement and that any failure of any Affiliate performing obligations of Merck hereunder shall be deemed to be a failure by Merck to perform such obligations.

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12.4 **Change of Control.** In the event of a Change of Control of Licensor by a **[***]**, then as from the date of such Change of Control, Licensor or its successor entity shall **[***].**

12.5 **Further Actions.** Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

12.6 **Accounting Procedures.** Each Party shall calculate all amounts hereunder and perform other accounting procedures required hereunder and applicable to it in accordance with either, as applicable (a) United States generally accepted accounting principles (US GAAP) or (b) IFRS, whichever is normally used by such Party to calculate its financial position, and in each case, consistently applied by such Party.

12.7 **Force Majeure.** Neither Party shall be liable to the other Party or be deemed to have breached or defaulted under this Agreement for failure or delay in the performance of any of its obligations under this Agreement for the time and to the extent such failure or delay is caused by or results from acts of God, earthquake, riot, civil commotion, terrorism, war, strikes or other labor disputes, fire, flood, failure or delay of transportation, omissions or delays in acting by a governmental authority, acts of a government or an agency thereof or judicial orders or decrees or restrictions or any other reason which is beyond the control of the respective Party. The Party affected by force majeure shall provide the other Party with full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and will use Commercially Reasonable Efforts to overcome the difficulties created thereby and to resume performance of its obligations hereunder as soon as practicable.

12.8 **No Trademark Rights.** No right, express or implied, is granted by this Agreement to a Party to use in any manner the name or any other trade name or trademark of the other Party in connection with the performance of this Agreement or otherwise.

12.9 **Entire Agreement of the Parties; Amendments.** This Agreement and the Schedules and Exhibits hereto constitute and contain the entire understanding and agreement of the Parties respecting the subject matter hereof and cancel and supersede any and all prior or contemporaneous negotiations, correspondence, understandings and agreements between the Parties, whether oral or written, regarding such subject matter (provided, that any and all previous nondisclosure/nonuse obligations are not superseded and remain in full force and effect in addition to the nondisclosure/nonuse provisions hereof). No waiver,

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modification or amendment of any provision of this Agreement shall be valid or effective unless made in a writing referencing this Agreement and signed by a duly authorized officer of each Party.

12.10 Captions. The captions to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement.

12.11 Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of New York, excluding application of any conflict of laws principles that would require application of the Law of a jurisdiction outside of New York, and will be subject to the exclusive jurisdiction of the courts of New York, USA.

12.12 Notices and Deliveries. Any notice, request, approval or consent required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered in person, transmitted by email (receipt verified) or by express courier service (signature required) to the Party to which it is directed at its physical or email address shown below or such other physical or email address as such Party shall have last given by notice to the other Party.

If to Merck, addressed to:

Merck Serono S.A.-Geneva
9, Chemin des Mines
1202 Geneva
Switzerland
Attn: Pascale Gaillard
Email: pascale.gaillard@merckgroup.com
With a copy to:

Merck Serono S.A.-Geneva
9, Chemin des Mines
1202 Geneva
Switzerland
Attn: Legal Department

If to Licensor, addressed to:

Ligand Pharmaceuticals Incorporated
11085 North Torrey Pines Road
La Jolla, CA 92037
USA
Attention: General Counsel
Email: cberkman@ligand.com

12.13 Waiver. A waiver by either Party of any of the terms and conditions of this Agreement in any instance shall not be deemed or construed to be a waiver of such term or condition for the future, or of any other term or condition hereof. All rights, remedies, undertakings, obligations and agreements contained in or available upon violation of this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

12.14 Severability. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable Law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable Law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement. The Parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

12.15 No Implied License. No right or license is granted to Merck hereunder by implication, estoppel, or otherwise to any know-how, patent or other intellectual property right owned or controlled by Licensor or its Affiliates, except by an express license granted hereunder. No right or license is granted to Licensor hereunder by implication, estoppel, or otherwise to any know-how, patent or other intellectual property right owned or controlled by Merck or its Affiliates except by an express license granted hereunder.

12.16 Interpretation. The words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation." All references herein to Articles, Sections, Schedules and Exhibits shall be deemed references to Articles and Sections of, and Schedules and Exhibits to, this Agreement unless the context shall otherwise require. Except as otherwise expressly provided herein, all terms of an accounting or financial nature shall be construed in accordance with IFRS, as in effect from time to time. Unless the context otherwise requires, countries shall include territories.

12.17 Counterparts. This Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A facsimile or a portable document format (PDF) copy of this Agreement, including the signature pages, will be deemed an original.

IN WITNESS WHEREOF, the Parties have caused this License Agreement to be executed and delivered by their respective duly authorized officers as of the day and year first above written, each copy of which shall for all purposes be deemed to be an original.

LIGAND PHARMACEUTICALS INCORPORATED		**ARES TRADING SA**	
By:	_____	By:	_____
Name:	_____	Name:	_____
Title:	_____	Title:	_____
By:	_____	By:	_____
Name:	_____	Name:	_____
Title:	_____	Title:	_____

Schedule 1

Compounds

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CONFIDENTIAL

Schedule 2

Licensor Know-How

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Schedule 3

Licensor Materials

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Schedule 4

Licensor Patent Rights

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Exhibit A

Merck Cost of Goods

"**Merck Cost of Goods**" shall mean the following costs of Merck but only to the extent those costs are **[***]** in the way outlined below:

(1) **[***]**

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Exhibit B

Royalty Calculation Example

By way of illustration, assume in a **[***]** that (i) **[***]**:

[***]

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Exhibit C

Third Party Necessary Intellectual Property

[***]

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Exhibit 10.3

SEPARATION AGREEMENT

This Separation Agreement (this "Agreement") is entered into between Syed M. I. Kazmi, Ph.D., an individual ("Executive"), and Ligand Pharmaceuticals Incorporated, (the "Company"), effective as of the Effective Date (as defined below).

WHEREAS, Executive is currently employed by the Company as its Vice President, Business Development and Strategic Planning;

WHEREAS, Executive and the Company desire to set forth the terms and conditions of the foregoing arrangement.

NOW, THEREFORE, in consideration of the mutual promises herein contained, the parties agree as follows:

1. Effective Date; Termination of Employment.

(a) Effective Date. This Agreement shall become effective upon the occurrence of both of the following events: (i) execution of the Agreement by the Parties; and (ii) expiration of the revocation period applicable under the Release (as defined in Section 2(g) below) without any party thereto having given notice of revocation. The date of the last to occur of the foregoing events shall be referred to in this Agreement as the "Effective Date." Until and unless both of the foregoing events occur, this Agreement shall be null and void.

(b) Termination of Employment Status. Executive's employment by the Company shall terminate effective as of August 31, 2012 or such earlier date as Executive shall specify upon two (2) week's prior written notice to the Company (the "Termination Date"), including his position as Vice President, Business Development and Strategic Planning (and any other titles or officer positions he may hold) of the Company (and any of its affiliates and subsidiaries).

(c) Consulting Agreement. On the Termination Date, Executive and the Company intend to enter into a consulting agreement (the "Consulting Agreement") pursuant to which Executive will continue to provide certain services to the Company, on the terms and conditions set forth therein.

2. Compensation.

(a) Compensation Through Termination Date. On the Termination Date, the Company shall issue Executive his final paycheck, reflecting (i) his earned but unpaid base salary through the Termination Date, and (ii) all accrued, unused vacation due Executive through the Termination Date. Subject to Sections 2(b) and (c) below, Executive acknowledges and agrees that with his final check, the payment of any outstanding expense reimbursements, and the payment of any amounts payable under any of the employee benefit plans of the Company in accordance with the terms of such plans, Executive will have received all monies, bonuses (including for any work performed in 2012), commissions, expense reimbursement, vacation pay, or other compensation he earned or was due during his employment by the Company.

(b) COBRA. Except as set forth in the Consulting Agreement, Executive shall be solely responsible for all matters relating to his continuation of coverage pursuant to COBRA, including, without limitation, his election of such coverage and his timely payment of any COBRA premiums.

(c) Exclusive Remedy. Except as otherwise expressly required by law (e.g., COBRA) or as specifically provided herein, all of Executive's rights to compensation, benefits, and other amounts hereunder (if any) accruing after the termination of Executive's employment by or service to the Company shall cease upon such termination. In addition, Executive acknowledges and agrees that he is not entitled to any reimbursement by the Company for any taxes payable by him as a result of the payments and benefits received by him pursuant to this Section 2, including, without limitation, any excise tax imposed by Section 4999 of the Code.

(d) Company Property. Executive shall immediately surrender to the Company all lists, books and records of, or in connection with, the Company's business, and all other property belonging to the Company, it being distinctly understood that all such lists, books and records, and other documents, are the property of the Company, other than any such property or access to emails and files that the Company determines is necessary for Executive's provision of consulting services pursuant to the Consulting Agreement.

(g) Release. Executive's right to receive any of the payments or other compensation to be made to Executive pursuant to the Consulting Agreement shall be contingent on Executive providing to the Company (and failing to revoke) a full and complete general release in the form attached hereto as Exhibit A (the "Release") within twenty-one (21) days following the Termination Date. In the event the Release does not become effective (and the revocation period thereunder expired) within the thirty (30) day period following the Termination Date, Executive shall not be entitled to the aforesaid payments and benefits.

3. Certain Covenants. Executive hereby expressly reaffirms his obligations under the Company's Confidentiality and Proprietary Rights Agreement, a copy of which is attached to this Agreement as Exhibit B and incorporated herein by reference, and agrees that such obligations shall survive the Termination Date and any termination of his services to the Company. The Company shall be entitled to cease all payments to Executive in the event of his breach of this Section 3.

4. Nondisparagement; Confidentiality. Executive agrees that neither he nor anyone acting by, through, under or in concert with him shall disparage or otherwise communicate negative statements or opinions about the Company, its board members, officers, employees or business. The Company agrees that neither its board members nor officers shall disparage or otherwise communicate negative statements or opinions about Executive. Except as may be required by law, neither Executive, nor any member of Executive's family, nor anyone else acting by, through, under or in concert with Executive will disclose to any individual or entity (other than Executive's legal or tax advisors) the terms of this Agreement.

5. Dispute Resolution.

(a) Mediation. In the event of any dispute, claim or controversy based on, arising out of or relating to Executive's employment or this Agreement (a "Dispute"), the parties shall attempt to resolve the dispute in non-binding mediation in accordance with the National Rules for the Resolution of Employment Disputes (the "Rules") of the American Arbitration Association ("AAA"). If the parties are unable to agree upon a mediator, one shall be appointed by the AAA in accordance with its Rules. Each party shall pay the fees of its own attorneys and all other expenses connected with presenting its case. Other costs of the mediation, including the cost of any record or transcripts of the mediation, AAA's administrative fees, the fee of the mediator, and all other fees and costs, shall be borne by the Company. If the matter has not been resolved pursuant to the aforesaid mediation procedure within thirty (30) days of the commencement of such procedure, or such other period as the parties agree, either party may submit the dispute to arbitration pursuant to Section 5(b) below.

(b) Arbitration. Any Dispute not settled pursuant to Section 5(a) above shall be settled by final and binding arbitration in San Diego, California, before a single neutral arbitrator in accordance with the National Rules for the Resolution of Employment Disputes (the "Rules") of the American Arbitration Association ("AAA"), and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction. Arbitration may be compelled pursuant to the California Arbitration Act (Code of Civil Procedure §§ 1280 et seq.). If the parties are unable to agree upon an arbitrator, one shall be appointed by the AAA in accordance with its Rules. Each party shall pay the fees of its own attorneys, the expenses of its witnesses and all other expenses connected with presenting its case; provided, however, Executive and the Company agree that, to the extent permitted by law, the arbitrator shall award reasonable attorneys' fees to the prevailing party; provided, further, that the prevailing party shall be reimbursed for such fees, costs and expenses within sixty (60) days following any such award; provided, further, that the parties' obligations pursuant to the foregoing provisos shall terminate on the tenth (10th) anniversary of the Termination Date. Other costs of the arbitration, including the cost of any record or transcripts of the arbitration, AAA's administrative fees, the fee of the arbitrator, and all other fees and costs, shall be borne by the Company.

(c) Other Relief. This Section 5 is intended to be the exclusive method for resolving any and all claims by the parties against each other for payment of damages under this Agreement or relating to Executive's employment; provided, however, that neither this Agreement nor the submission to mediation or arbitration shall limit the parties' right to seek provisional relief, including without limitation injunctive relief, in any court of competent jurisdiction pursuant to California Code of Civil Procedure § 1281.8 or any similar statute of an applicable jurisdiction. Seeking any such relief shall not be deemed to be a waiver of such party's right to compel arbitration. Both Executive and the Company expressly waive their right to a jury trial.

6. Indemnification Agreement. The Company hereby reaffirms its obligations under that certain Indemnification Agreement between the Company and Executive attached hereto as Exhibit C (the "Indemnification Agreement"). The Company's obligations under the Indemnification Agreement shall survive Executive's termination of employment by or service to the Company.

7. Agreed-Upon Statement; Employment References. Any inquiries regarding Executive from prospective employers shall be forwarded to the Chief Executive Officer of the Company. Except as required by law or court order, the Company shall not make any additional or inconsistent internal or public statements regarding Executive's termination.

8. Miscellaneous.

(a) Entire Agreement. This Agreement and the agreements referenced herein set forth the entire agreement of the parties hereto in respect of the subject matter contained herein and therein and supersede all prior agreements, promises, covenants, arrangements, communications, representations or warranties, whether oral or written, by any officer, employee or representative of any party hereto, and any prior agreement of the parties hereto in respect of the subject matter contained herein, including without limitation, any prior severance agreements, any contrary or limiting provisions in any Company equity compensation plan, that certain Change in Control Severance Agreement dated as of August 17, 2007, between Executive and the Company, as amended. This Agreement shall not limit in any way any obligation Executive may have under any other agreement with or promise to the Company relating to confidentiality, proprietary rights in technology or the assignment of interests in any intellectual property.

(b) Assignment; Assumption by Successor. The rights of the Company under this Agreement may, without the consent of Executive, be assigned by the Company, in its sole and unfettered discretion, to any person, firm, corporation or other business entity which at any time, whether by purchase, merger or otherwise, directly or indirectly, acquires all or substantially all of the assets or business of the Company. The Company shall require any successor (whether direct or indirect, by purchase, merger or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and to agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place; provided, however, that no such assumption shall relieve the Company of its obligations hereunder. Unless expressly provided otherwise, "Company" as used herein shall mean the Company as defined in this Agreement and any successor to its business and/or assets as aforesaid which assumes and agrees to perform this Agreement by operation of law or otherwise. Executive shall not be entitled to assign any of Executive's rights or obligations under this Agreement. This Agreement shall inure to the benefit of and be enforceable by Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

(c) Survival. The covenants, agreements, representations and warranties contained in or made in Sections 2, 3, 4, 5, 6, 7, 8 and 9 of this Agreement shall survive any termination of Executive's services or any termination of this Agreement.

(d) Third-Party Beneficiaries. This Agreement does not create, and shall not be construed as creating, any rights enforceable by any person not a party to this Agreement.

(e) Notices. Any notice required or permitted by this Agreement shall be in writing and shall be delivered as follows with notice deemed given as indicated: (i) by personal delivery when delivered personally; (ii) by overnight courier upon written verification of receipt; (iii) by telecopy or facsimile transmission upon acknowledgment of receipt of electronic transmission; or (iv) by certified or registered mail, return receipt requested, upon verification of receipt. Notice shall be sent to Executive at the address set forth on the signature page below and to the Company at its principal place of business, or such other address as either party may specify in writing.

(f) Severability. In the event any provision of this Agreement is found to be unenforceable by an arbitrator or court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to allow enforceability of the provision as so limited, it being intended that the parties shall receive the benefit contemplated herein to the fullest extent permitted by law. If a deemed modification is not satisfactory in the judgment of such arbitrator or court, the unenforceable provision shall be deemed deleted, and the validity and enforceability of the remaining provisions shall not be affected thereby.

(g) Governing Law and Venue. This Agreement will be governed by and construed in accordance with the laws of the United States and the State of California applicable to contracts made and to be performed wholly within such State, and without regard to the conflicts of laws principles thereof. Any suit brought hereon shall be brought in the state or federal courts sitting in San Diego, California, the Parties hereby waiving any claim or defense that such forum is not convenient or proper. Each party hereby agrees that any such court shall have in personam jurisdiction over it and consents to service of process in any manner authorized by California law.

(h) Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument.

(i) Interpretation; Construction. The headings set forth in this Agreement are for convenience only and shall not be used in interpreting this Agreement. This Agreement has been drafted by legal counsel representing the Company, but Executive has participated in the negotiation of its terms. Furthermore, Executive acknowledges that Executive has had an opportunity to review and revise the Agreement and have it reviewed by legal counsel, if desired, and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement. Either party's failure to enforce any provision of this Agreement shall not in any way be construed as a waiver of any such provision, or prevent that party thereafter from enforcing each and every other provision of this Agreement.

(j) Amendment. This Agreement may be amended or modified only with the written consent of Executive and an authorized representative of the Company. No oral waiver, amendment or modification will be effective under any circumstances whatsoever.

(k) Taxes. All compensation payable to Executive under this Agreement shall be subject to such deductions as the Company is from time to time required to make pursuant to law, governmental regulation or order. Executive acknowledges that the payments and benefits provided in this Agreement may have tax ramifications to him. The Company has provided no tax or other advice to Executive on such matters and Executive is free to consult with an accountant, legal counsel, or other tax advisor regarding the tax consequences he may face.

(l) RIGHT TO ADVICE OF COUNSEL. EXECUTIVE ACKNOWLEDGES THAT HE HAS THE RIGHT, AND IS ENCOURAGED, TO CONSULT WITH HIS LAWYER; BY HIS SIGNATURE BELOW, EXECUTIVE ACKNOWLEDGES THAT HE HAS CONSULTED, OR HAS ELECTED NOT TO CONSULT, WITH HIS LAWYER CONCERNING THIS AGREEMENT.

(Signature Page Follows)

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ Charles Berkman
Print Name: Charles Berkman
Title: VP, General Counsel & Secretary

Date: May 4, 2012

SYED M. I. KAZMI, PH.D.

/s/ Syed M. I. Kazmi

Address: 10537 Gaylemont Lane
San Diego, CA 92130

Date: May 2, 2012

EXHIBIT A
GENERAL RELEASE OF CLAIMS

This General Release of Claims ("Release") is entered into as of this day of , 2012, between Syed Kazmi, Ph.D. ("Executive"), and Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Company") (collectively referred to herein as the "Parties").

WHEREAS, Executive and the Company are parties to that certain Separation Agreement dated as of , 2012 (the "Agreement");

WHEREAS, the Parties agree that it is a condition to the execution of the Consulting Agreement referenced in the Agreement by the Company that Executive execute this Release and that this Release become effective; and

WHEREAS, the Company and Executive now wish to fully and finally to resolve all matters between them.

NOW, THEREFORE, in consideration of, and subject to, the benefits payable to Executive pursuant to the Agreement, the adequacy of which is hereby acknowledged by Executive, and which Executive acknowledges that he would not otherwise be entitled to receive, Executive and the Company hereby agree as follows:

1. General Release of Claims by Executive.

(a) Executive, on behalf of himself and his executors, heirs, administrators, representatives and assigns, hereby agrees to release and forever discharge the Company and all predecessors, successors and their respective parent corporations, affiliates, related, and/or subsidiary entities, and all of their past and present investors, directors, shareholders, officers, general or limited partners, employees, attorneys, agents and representatives, and the employee benefit plans in which Executive is or has been a participant by virtue of his employment with or service to the Company (collectively, the "Company Releasees"), from any and all claims, debts, demands, accounts, judgments, rights, causes of action, equitable relief, damages, costs, charges, complaints, obligations, promises, agreements, controversies, suits, expenses, compensation, responsibility and liability of every kind and character whatsoever (including attorneys' fees and costs), whether in law or equity, known or unknown, asserted or unasserted, suspected or unsuspected (collectively, "Claims"), which Executive has or may have had against such entities based on any events or circumstances arising or occurring on or prior to the date hereof or on or prior to the date hereof, arising directly or indirectly out of, relating to, or in any other way involving in any manner whatsoever Executive's employment by or service to the Company or the termination thereof, including any and all claims arising under federal, state, or local laws relating to employment, including without limitation claims of wrongful discharge, breach of express or implied contract, fraud, misrepresentation, defamation, or liability in tort, and claims of any kind that may be brought in any court or administrative agency including, without limitation, claims under Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. Section 2000, et seq.; the Americans with Disabilities Act, as amended, 42 U.S.C. § 12101 et seq.; the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 701 et seq.; the Civil Rights Act of 1866, and the Civil Rights Act of 1991; 42 U.S.C. Section 1981, et seq.; the Age Discrimination in Employment Act, as amended, 29 U.S.C. Section 621, et seq. (the "ADEA"); the Equal Pay Act, as amended, 29 U.S.C. Section 206(d); regulations of the Office of Federal Contract Compliance, 41 C.F.R. Section 60, et seq.; the Family and Medical Leave Act, as amended, 29 U.S.C. § 2601 et seq.; the Fair Labor Standards Act of 1938, as amended, 29 U.S.C. § 201 et seq.; the Employee Retirement Income Security Act, as amended, 29 U.S.C. § 1001 et seq.; and the California Fair Employment and Housing Act, California Government Code Section 12940, et seq.

Notwithstanding the generality of the foregoing, Executive does not release the following claims:

(i) Claims for unemployment compensation or any state disability insurance benefits pursuant to the terms of applicable state law;

(ii) Claims for workers' compensation insurance benefits under the terms of any worker's compensation insurance policy or fund of the Company;

(iii) Claims pursuant to the terms and conditions of the federal law known as COBRA;

(iv) Claims for indemnity under the bylaws of the Company, as provided for by Delaware law or under any applicable insurance policy with respect to Executive's liability as an employee, director or officer of the Company;

(v) Claims based on any right Executive may have to enforce the Company's executory obligations under the Agreement; and

(vi) Claims Executive may have to vested or earned compensation and benefits.

(b) EXECUTIVE ACKNOWLEDGES THAT HE HAS BEEN ADVISED OF AND IS FAMILIAR WITH THE PROVISIONS OF CALIFORNIA CIVIL CODE SECTION 1542, WHICH PROVIDES AS FOLLOWS:

"A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH, IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR."

BEING AWARE OF SAID CODE SECTION, EXECUTIVE HEREBY EXPRESSLY WAIVES ANY RIGHTS HE MAY HAVE THEREUNDER, AS WELL AS UNDER ANY OTHER STATUTES OR COMMON LAW PRINCIPLES OF SIMILAR EFFECT.

(c) Executive acknowledges that this Release was presented to him on the date indicated above and that Executive is entitled to have twenty-one (21) days' time in which to consider it. Executive further acknowledges that the Company has advised him that he is waiving his rights under the ADEA, and that Executive may obtain advice concerning this Release from an attorney of his choice, and Executive has had sufficient time to consider the terms of this Release. Executive represents and acknowledges that if Executive executes this Release before twenty-one (21) days have elapsed, Executive does so knowingly, voluntarily, and upon the advice and with the approval of Executive's legal counsel (if any), and that Executive voluntarily waives any remaining consideration period.

(d) Executive understands that after executing this Release, Executive has the right to revoke it within seven (7) days after his execution of it. Executive understands that this Release will not become effective and enforceable unless the seven (7) day revocation period passes and Executive does not revoke the Release in writing. Executive understands that this Release may not be

revoked after the seven (7) day revocation period has passed. Executive also understands that any revocation of this Release must be made in writing and delivered to the Company at its principal place of business within the seven (7) day period.

(e) Executive understands that this Release shall become effective, irrevocable, and binding upon Executive on the eighth (8th) day after my execution of it, so long as Executive has not revoked it within the time period and in the manner specified in clause (d) above. Executive further understands that Executive will not be given any severance benefits under the Agreement until the effective date of this Release.

2. No Assignment. Executive represents and warrants to the Company Releasees that there has been no assignment or other transfer of any interest in any Claim that Executive may have against the Company Releasees, or any of them. Executive agrees to indemnify and hold harmless the Company Releasees from any liability, claims, demands, damages, costs, expenses and attorneys' fees incurred as a result of any such assignment or transfer from Executive.

3. Severability. In the event any provision of this Release is found to be unenforceable by an arbitrator or court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to allow enforceability of the provision as so limited, it being intended that the parties shall receive the benefit contemplated herein to the fullest extent permitted by law. If a deemed modification is not satisfactory in the judgment of such arbitrator or court, the unenforceable provision shall be deemed deleted, and the validity and enforceability of the remaining provisions shall not be affected thereby.

4. Interpretation; Construction. The headings set forth in this Release are for convenience only and shall not be used in interpreting this Agreement. This Release has been drafted by legal counsel representing the Company, but Executive has participated in the negotiation of its terms. Furthermore, Executive acknowledges that Executive has had an opportunity to review and revise the Release and have it reviewed by legal counsel, if desired, and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Release. Either party's failure to enforce any provision of this Release shall not in any way be construed as a waiver of any such provision, or prevent that party thereafter from enforcing each and every other provision of this Release.

5. Governing Law and Venue. This Release will be governed by and construed in accordance with the laws of the United States of America and the State of California applicable to contracts made and to be performed wholly within such State, and without regard to the conflicts of laws principles thereof. Any suit brought hereon shall be brought in the state or federal courts sitting in San Diego, California, the Parties hereby waiving any claim or defense that such forum is not convenient or proper. Each party hereby agrees that any such court shall have in personam jurisdiction over it and consents to service of process in any manner authorized by California law.

6. Entire Agreement. This Release and the Agreement constitute the entire agreement of the Parties in respect of the subject matter contained herein and therein and supersede all prior or simultaneous representations, discussions, negotiations and agreements, whether written or oral. This Release may be amended or modified only with the written consent of Executive and an authorized representative of the Company. No oral waiver, amendment or modification will be effective under any circumstances whatsoever.

7. Counterparts. This Release may be executed in multiple counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, and intending to be legally bound, the Parties have executed the foregoing Release as of the date first written above.

EXECUTIVE

_____

Syed M. I. Kazmi, Ph.D.

LIGAND PHARMACEUTICALS INCORPORATED

By: _____

Print Name: _____

Title: _____

EXHIBIT B
COMPANY CONFIDENTIALITY AND PROPRIETARY RIGHTS AGREEMENT

[Attached]

EXHIBIT C
INDEMNIFICATION AGREEMENT

[Attached]

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 Quarterly Report on Form 10-Q 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 officers 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 internal 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; and

5. The registrant's other certifying officers 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: August 8, 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 Quarterly Report on Form 10-Q 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 officers 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 internal 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; and

5. The registrant's other certifying officers 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: August 8, 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 Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Incorporated (the "Company") for the quarter ended June 30, 2012, 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 Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, 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 Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, 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 Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, pursuant to 18 U.S.C. Section 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: August 8, 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 Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Incorporated (the "Company") for the quarter ended June 30, 2012, 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 Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, 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 Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, 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 Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, pursuant to 18 U.S.C. Section 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: August 8, 2012

/s/ John P. Sharp
John P. Sharp
Vice President, Finance and Chief Financial Officer
(Principal Financial Officer)