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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 March 31, 2009

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.)**
10275 Science Center Drive San Diego, CA	**92121-1117**
(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 ☐ Smaller Reporting Company ☐
(Do not check if a smaller reporting company)

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

As of April 30, 2009, the registrant had 113,301,941 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
(Unaudited)
(in thousands, except share data)

	March 31, 2009	December, 31 2008
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4,920	$ 28,753
Short-term investments	47,684	51,918
Accounts receivable, net	2,715	—
Other current assets	1,179	2,300
Current portion of co-promote termination payments receivable	11,197	10,958
Total current assets	67,695	93,929
Restricted investments	1,341	1,341
Property and equipment, net	11,195	12,903
Goodwill and other identifiable intangible assets	2,185	5,375
Long-term portion of co-promote termination payments receivable	46,806	47,524
Restricted indemnity account	10,264	10,232
Other assets	101	144
Total assets	$ 139,587	$ 171,448
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$ 15,641	$ 14,627
Accrued liabilities	7,771	12,665
Allowances for loss on returns, rebates and chargebacks related to discontinued operations	5,590	9,590
Current portion of accrued litigation settlement costs	180	8,680
Current portion of deferred gain	1,964	1,964
Current portion of co-promote termination liability	11,197	10,958
Current portion of equipment financing obligations	349	1,829
Current portion of deferred revenue	10,192	10,301
Total current liabilities	52,884	70,614
Long-term portion of co-promote termination liability	46,806	47,524
Long-term portion of equipment financing obligations	54	2,178
Long-term portion of deferred revenue	10,380	16,819
Long-term portion of deferred gain	22,801	23,292
Other long-term liabilities	9,015	9,041
Total liabilities	141,940	169,468
Commitments and contingencies		
Common stock subject to conditional redemption; 997,568 shares issued and outstanding at March 31, 2009 and December 31, 2008, respectively	12,345	12,345
Stockholders' deficit:		
Convertible preferred stock, $0.001 par value; 5,000,000 shares authorized; none issued	—	—
Common stock, $0.001 par value; 200,000,000 shares authorized; 118,912,238 and 118,562,748 shares issued at March 31, 2009 and December 31, 2008, respectively	119	119
Additional paid-in capital	712,021	711,195
Accumulated other comprehensive income	11	81
Accumulated deficit	(684,715)	(679,626)
Treasury stock, at cost; 6,607,905 shares at March 31, 2009 and December 31, 2008, respectively	(42,134)	(42,134)
Total stockholders' deficit	(14,698)	(10,365)
	$ 139,587	$ 171,448

See accompanying notes.

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

	Three Months Ended March 31,	
	2009	2008
Revenues:		
Royalties	$ 2,730	$ 4,874
Collaborative research and development and other revenues	6,740	—
Total revenues	9,470	4,874
Operating costs and expenses:		
Research and development	10,462	7,165
General and administrative	6,817	10,099
Total operating costs and expenses	17,279	17,264
Accretion of deferred gain on sale leaseback	491	491
Loss from operations	(7,318)	(11,899)
Other income (expense):		
Interest income	139	935
Interest expense	(194)	(52)
Other, net	(109)	(482)
Total other income, net	(164)	401
Loss before income taxes	(7,482)	(11,498)
Income tax benefit	—	1,781
Loss from continuing operations	(7,482)	(9,717)
Discontinued operations:		
Gain on sale of AVINZA Product Line before income taxes	2,131	8,321
Gain on sale of Oncology Product Line before income taxes	235	915
Income tax expense on discontinued operations	—	(3,452)
Discontinued operations	2,366	5,784
Net loss	$ (5,116)	$ (3,933)
Basic and diluted per share amounts:		
Loss from continuing operations	$ (0.07)	$ (0.10)
Discontinued operations	0.02	0.06
Net loss	$ (0.05)	$ (0.04)
Weighted average number of common shares	113,118,073	95,047,440

See accompanying notes.

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

	For the three months ended March 31,	
	2009	2008
Operating activities		
Net loss	$ (5,116)	$ (3,933)
Less: gain from discontinued operations	2,366	5,784
Loss from continuing operations	(7,482)	(9,717)
Adjustments to reconcile net loss to net cash used in operating activities:		
Accretion of deferred gain on sale leaseback	(491)	(491)
Amortization of acquired intangible assets	162	—
Depreciation and amortization of property and equipment	819	298
Non-cash lease costs	262	4,148
Loss on asset write-offs	(3)	669
Realized loss on investment	88	500
Stock-based compensation	820	996
Other	19	(5)
Changes in operating assets and liabilities, net of acquisition:		
Accounts receivable, net	(2,715)	—
Other current assets	802	2,048
Other long term assets	(202)	(68)
Accounts payable and accrued liabilities	(12,497)	(4,409)
Other liabilities	(174)	84
Deferred revenue	(2,214)	—
Net cash used in operating activities of continuing operations	(22,806)	(5,947)
Net cash used in operating activities of discontinued operations	(1,315)	(3,452)
Net cash used in operating activities	(24,121)	(9,399)
Investing activities		
Purchases of property and equipment	(214)	(196)
Proceeds from sale of property and equipment and building	15	—
Purchases of short-term investments	(11,257)	(22,601)
Proceeds from sale of short-term investments	15,400	9,012
Other, net	(71)	(50)
Net cash provide by (used in) investing activities of continuing operations	3,873	(13,835)
Net cash provided by investing activities of discontinued operations	—	8,058
Net cash provided by (used in) investing activities	3,873	(5,777)
Financing activities		
Principal payments on equipment financing obligations	(163)	(514)
Repayment of debt	(3,443)	—
Net proceeds from issuance of common stock	21	34
Repurchase of common stock	—	(1,613)
Net cash used in financing activities	(3,585)	(2,093)
Net decrease in cash and cash equivalents	(23,833)	(17,269)
Cash and cash equivalents at beginning of period	28,753	76,812
Cash and cash equivalents at end of period	$ 4,920	$ 59,543

See accompanying notes.

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

1. Basis of Presentation

The accompanying condensed consolidated financial statements of Ligand Pharmaceuticals Incorporated (the "Company" or "Ligand") were prepared in accordance with instructions for this Quarterly Report on Form 10-Q for the quarter ended March 31, 2009 and, therefore, do not include all information necessary for a complete presentation of financial condition, results of operations, and cash flows in conformity with accounting principles generally accepted in the United States of America. However, all adjustments, consisting of normal recurring adjustments, which, in the opinion of management, are necessary for a fair presentation of the condensed consolidated financial statements, have been included. The results of operations and cash flows for the three months ended March 31, 2009 and 2008 are not necessarily indicative of the results that may be expected for the entire fiscal year or any other future period. These statements should be read in conjunction with the consolidated financial statements and related notes, which are included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008.

The Company's and its partners' products are in various stages of development. Potential products that are promising at early stages of development may not reach the market for a number of reasons. Prior to generating revenues from these products, the Company or its collaborative partners must complete the development of the products in the human health care market. No assurance can be given that: (1) product development efforts will be successful, (2) required regulatory approvals for any indication will be obtained, (3) any products, if introduced, will be capable of being produced in commercial quantities at reasonable costs or, (4) patient and physician acceptance of these products will be achieved. The Company faces risks common to companies whose products are in various stages of development. These risks include, among others, the Company's need for additional financing to complete its research and development programs and commercialize its technologies. The Company has incurred significant losses since its inception. At March 31, 2009, the Company's accumulated deficit was $684.7 million. Management expects that the Company will continue to incur substantial research and development expenses. As further discussed in Note 2, the Company sold its oncology product line ("Oncology") on October 25, 2006 and its AVINZA product line ("AVINZA") on February 26, 2007. The operating results for Oncology and AVINZA have been presented in the accompanying condensed consolidated financial statements as "Discontinued Operations."

Principles of Consolidation

The condensed consolidated financial statements include the Company's wholly owned subsidiaries, Ligand Pharmaceuticals International, Inc., Ligand Pharmaceuticals (Canada) Incorporated, Seragen, Inc. ("Seragen"), Nexus Equity VI LLC ("Nexus") and Pharmacopeia LLC. All significant intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, including disclosure of contingent assets and contingent liabilities, at the date of the consolidated financial statements, and the reported amounts of 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

Net income (loss) per share is computed using the weighted average number of common shares outstanding. Basic and diluted income (loss) per share amounts are equivalent for the periods presented as the inclusion of potential common shares in the number of shares used for the diluted computation would be anti-dilutive to loss per share from continuing operations. In accordance with Statement of Financial Accounting Standards ("SFAS") No. 128, *Earnings Per Share*, 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 income (loss) per share, as the Company reported a loss from continuing operations for all periods presented. Potential common shares, the shares

that would be issued upon the exercise of outstanding stock options and warrants and the vesting of restricted shares, were 5.8 million and 4.1 million at March 31, 2009 and 2008, respectively, and have been excluded from the computation of loss per share.

Guarantees and Indemnifications

The Company accounts for and discloses guarantees in accordance with FASB Interpretation No. 45 ("FIN 45"), *Guarantor's Accounting and Disclosure Requirements for Guarantees Including Indirect Guarantees of Indebtedness of Others, an interpretation of FASB Statements Nos. 5, 57 and 107 and rescission of FIN 34*. The following is a summary of the Company's agreements that management has determined are within the scope of FIN 45:

Under its amended and restated bylaws, the Company has agreed to indemnify its officers and directors for certain events or occurrences arising as a result of the officer's or director's serving in such capacity. The term of the indemnification period is for the officer's or director's lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. The Company has a directors and officers liability insurance policy that limits its exposure and enables it to recover a portion of any future amounts paid. As a result of its insurance policy coverage, management believes the estimated fair value of these indemnification agreements is minimal and has no liabilities recorded for these agreements as of March 31, 2009 and December 31, 2008.

Revenue Recognition

Royalties on sales of AVINZA and PROMACTA are recognized in the quarter reported by the respective partner.

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.

Revenue earned related to up-front product and technology license fees is recognized in accordance with Staff Accounting Bulletin (SAB) 104 issued by the Securities and Exchange Commission (SEC) Emerging Issue Task Force (EITF) No. 00-21, "Revenue Arrangements with Multiple Deliverables" (EITF 00-21), EITF No. 07-1, "Accounting for Collaborative Arrangements (EITF 07-1) and EITF No. 07-3, "Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities" (EITF 07-3) issued by the FASB. Accordingly, amounts received under multiple-element arrangements requiring ongoing services or performance by the Company are recognized over the period of such services or performance.

Revenue from milestones is recognized when earned, as evidenced by written acknowledgement from the collaborator, provided that (i) the milestone event is substantive, its achievability was not reasonably assured at the inception of the agreement, and the Company has no further performance obligations relating to that event, and (ii) collectibility 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 in accordance with SFAS No. 109, *Accounting for Income Taxes* (SFAS 109). 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. SFAS 109 requires that a valuation allowance be 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 guidance of SFAS 109 to determine the amount of income tax expense or benefit to be allocated among continuing operations, discontinued operations, and items charged or credited directly to stockholders' equity (deficit).

Due to the adoption of SFAS No. 123R, "Share-Based Payment" (SFAS 123R) beginning January 1, 2006, the Company recognizes windfall tax benefits associated with the exercise of stock options directly to stockholders'

equity only when realized. Accordingly, deferred tax assets are not recognized for net operating loss carryforwards resulting from windfall tax benefits occurring from January 1, 2006 onward. A windfall tax benefit occurs when the actual tax benefit realized by the Company upon an employee's disposition of a share-based award exceeds the deferred tax asset, if any, associated with the award that the Company had recorded.

The Company adopted the provisions of FASB Interpretation No. 48 (FIN 48), "Accounting for Uncertainty in Income Taxes", on January 1, 2007. FIN 48 clarifies the accounting for income taxes by prescribing a minimum probability threshold that a tax position must meet before a financial statement benefit is recognized. The minimum threshold is defined in FIN 48 as a tax position that is more likely than not to be sustained upon examination by the applicable taxing authority, including resolution of any related appeals or litigation processes, based on the technical merits of the position. The Company recognizes interest and penalties related to uncertain tax positions in income tax expense.

Accounting for Stock-Based Compensation

The Company applies the fair value recognition provisions of SFAS 123(R) using the modified prospective transition method to account for stock-based compensation. Under that transition method, compensation cost recognized in the three months ended March 31, 2009 and 2008 includes: (a) compensation cost for all stock-based awards granted prior to, but not yet vested as of January 1, 2006, based on the grant date fair value estimated in accordance with the original provisions of SFAS No. 123, and (b) compensation cost for all stock-based awards granted subsequent to January 1, 2006, based on the grant date fair value estimated in accordance with the provisions of SFAS No. 123(R).

Stock-based compensation expense for awards to employees and non-employee directors is recognized on a straight-line basis over the vesting period until the last tranche vests. Compensation cost for consultant awards is recognized over each separate tranche's vesting period. The Company recognized compensation expense of $0.8 million and $1.0 million for the three months ended March 31, 2009 and 2008, respectively, associated with option awards, restricted stock and an equitable adjustment of employee stock options.

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 March 31,	
	2009	2008
Risk-free interest rate	2.0%	3.0%
Dividend yield	—	—
Expected volatility	74%	65%
Expected term	6.0 years	6.0 years

The expected term of the employee and non-employee director options is the estimated weighted-average period until exercise or cancellation of vested options (forfeited unvested options are not considered). 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.

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, 2008	3,030,076	$ 6.55		
Granted	1,490,850	2.63		
Exercised	—	—		
Forfeited	(183,849)	4.33		
Cancelled	(2,500)	4.41		
Balance at March 31, 2009	4,334,577	$ 5.29	7.27	$ 620
Exercisable at March 31, 2009	1,764,731	$ 8.00	4.41	$ 100
Options expected to vest as of March 31, 2009	3,966,900	$ 5.45	7.10	$ 554

The weighted-average grant-date fair value of all stock options granted during the three months ended March 31, 2009 was $1.72 per share. The total intrinsic value of all options exercised during the three months ended March 31, 2008 was $1,000. As of March 31, 2009, there was $5.3 million of total unrecognized compensation cost related to nonvested stock options. That cost is expected to be recognized over a weighted-average period of 3.4 years.

As of March 31, 2009, 0.6 million shares were available for future option grants or direct issuance under the Company's 2002 stock incentive plan.

Cash received from options exercised for the three months ended March 31, 2008 was $4,000. There is no current tax benefit related to options exercised because of net operating losses ("NOLs") for which a full valuation allowance has been established.

Restricted Stock Activity

Restricted stock activity for the three months ended March 31, 2009 is as follows:

	Shares	Weighted-Average Grant Date Stock Price
Nonvested at December 31, 2008	598,672	$ 5.14
Granted	210,560	2.69
Vested	(268,246)	6.52
Forfeited	(55,164)	3.65
Nonvested at March 31, 2009	485,822	$ 3.49

The weighted-average grant-date fair value of restricted stock granted during the three months ended March 31, 2009 was $2.69 per share. As of March 31, 2009, 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 has an employee stock purchase plan (as amended, the "2002 ESPP"). The 2002 ESPP allows employees to purchase a limited amount of common stock at the end of each three month period at a price equal to the lesser of 85% of fair market value on either the first trading day of the period or the last trading day of the period (the "Lookback Provision"). The 15% discount and the Lookback Provision make the 2002 ESPP compensatory under SFAS 123(R). There were 9,140 shares of common stock issued under the 2002 ESPP during the three

months ended March 31, 2009, resulting in a compensation expense of $6,000. There were 8,954 shares of common stock issued under the 2002 ESPP during the three months ended March 31, 2008, resulting in a compensation expense of $40,000. As of March 31, 2009, 38,251 shares were available for future purchases under the 2002 ESPP.

Warrants

As of March 31, 2009, warrants to purchase 867,637 shares of the Company's common stock were outstanding with an exercise price of $8.59 per share and warrants to purchase 105,554 shares of the Company's common stock were outstanding with an exercise price of $9.47 per share. The warrants were assumed in the acquisition of Pharmacopeia, Inc. and expire in April 2012 and March 2011, respectively.

Share Repurchases

In March 2007, the Company's Board of Directors authorized up to $100.0 million in share repurchases over the subsequent 12 months. The Company repurchased an aggregate of 6.5 million shares of its common stock totaling $41.2 million prior to the expiration of the repurchase period on March 31, 2008.

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. The following table summarizes the various investment categories at March 31, 2009 and December 31, 2008 (in thousands):

	Cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
March 31, 2009				
U.S. government securities	$45,249	$ 15	$ (4)	$45,260
Corporate obligations	2,424	—	—	2,424
	47,673	15	(4)	47,684
Certificates of deposit - restricted	1,341	—	—	1,341
	$49,014	$ 15	$ (4)	$49,025
December 31, 2008				
U.S. government securities	$50,174	$ 81	$ —	$50,255
Corporate obligations	1,663	—	—	1,663
	51,837	81	—	51,918
Certificates of deposit - restricted	1,341	—	—	1,341
	$53,178	$ 81	$ —	$53,259

In July 2007, the Company purchased $5.0 million of commercial paper issued by Golden Key Ltd. The investment was highly-rated and within the Company's investment policy at the time of purchase, but during the third quarter of 2007, large credit rating agencies downgraded the quality of this security. In addition, as a result of not meeting certain liquidity covenants, the assets of Golden Key Ltd. were assigned to a trustee who established a committee of the largest senior credit holders to determine the next steps. Subsequently, Golden Key Ltd. defaulted on its obligation to settle the security on the stated maturity date of October 10, 2007. Based on available information, management currently estimates that it will be able to recover approximately $1.6 million on this investment. Management adjusted the carrying value by recording an impairment loss of $0.1 million and $0.5 million during the three months ended March 31, 2009 and 2008, respectively. As a result of ongoing volatility in the liquidity of the capital markets, the Company may be exposed to additional impairment for this investment until it is fully recovered or disposed of.

Other Current Assets

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

	March 31, 2009	December 31, 2008
Income taxes receivable	$ —	$ 817
Prepaid expenses	1,051	1,147
Other receivables	128	325
Other	—	11
	$ 1,179	$ 2,300

Property and Equipment

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

	March 31, 2009	December 31, 2008
Equipment and leasehold improvements	$ 53,244	$ 54,664
Less accumulated depreciation and amortization	(42,049)	(41,761)
	$ 11,195	$ 12,903

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. During the third quarter 2008, the Company conducted a physical count of its fixed assets that resulted in the write-off of gross fixed assets totaling $23.8 million and related accumulated depreciation of $23.7 million.

Goodwill and Other Identifiable Intangible Assets

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

	March 31, 2009	December 31, 2008
Collaborative research and development with Schering-Plough	$ 1,838	$ 2,000
Goodwill	347	3,375
	$ 2,185	$ 5,375

The collaborative research and development with Schering-Plough is being amortized on a straight-line basis over a period of three years. During the three months ended March 31, 2009, the Company recorded $0.2 million of amortization expense. Additionally, during the three months ended March 31, 2009, the Company finalized its preliminary purchase price allocation for Pharmacopeia, which resulted in an increase in transaction costs of $0.3 million and decreases in property and equipment of $1.1 million, liabilities assumed of $4.4 million and goodwill of $3.0 million.

Impairment of Long-Lived Assets

Management reviews long-lived assets for impairment annually or whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets. Fair value for the Company's long-lived assets is determined using the expected cash flows discounted at a rate commensurate with the risk involved. During the three months ended March 31, 2008, the Company recorded an impairment charge of $0.7 million to general and administrative expense as a result of vacating a building in February 2008. As of March 31, 2009, management believes that the future cash flows to be received from its long-lived assets will exceed the assets' carrying value.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	March 31, 2009	December 31, 2008
Warrant liability	$ 673	$ 670
Compensation	2,706	2,686
Legal	652	4,166
Restructuring costs	226	848
Other	3,514	4,295
	$ 7,771	$ 12,665

The following summarizes the activity in the accrued liability accounts related to allowances for loss on returns, rebates, chargebacks, and other discounts for the three months ended March 31, 2009 (in thousands):

	Charge-backs and Rebates	Returns	Total
Balance at December 31, 2008	$ 508	$ 9,082	$ 9,590
AVINZA Transaction Provision (1)	(26)	(2,249)	(2,275)
Oncology Transaction Provision (2)	—	(398)	(398)
Payments	(121)	—	(121)
Charges	—	(1,206)	(1,206)
Balance at March 31, 2009	$ 361	$ 5,229	$ 5,590

(1) The AVINZA transaction provision amounts represent changes in the estimates of the accruals for rebates, chargebacks and returns recorded in connection with the sale of the AVINZA product line.

(2) The Oncology transaction provision amounts represent changes in the estimates of the accruals for rebates, chargebacks and returns recorded in connection with the sale of the Oncology product line.

Comprehensive Income (loss)

Comprehensive income (loss) represents net income adjusted for the change during the periods presented in unrealized gains and losses on available-for-sale securities less reclassification adjustments for realized gains or losses included in net income. Comprehensive income (loss) is as follows (in thousands):

	Three Months Ended March 31,	
	2009	2008
Net loss as reported	$(5,116)	$ (3,933)
Unrealized net gain on available-for-sale securities	(70)	(52)
Comprehensive loss	$(5,186)	$ (3,985)

New Accounting Pronouncements

In December 2007, the FASB issued SFAS No. 160, “Noncontrolling Interests in Consolidated Financial Statements — An Amendment of ARB No. 51,” which is effective for calendar-year companies beginning January 1, 2009. The standard establishes new accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. The adoption of this standard did not have a material impact on the Company’s condensed consolidated financial statements.

In March 2008, the FASB issued SFAS No. 161, “Disclosures about Derivative Instruments and Hedging Activities — An Amendment of FASB Statement No. 133,” which is effective for calendar-year companies beginning January 1, 2009. The standard enhances required disclosures regarding derivatives and hedging activities. The adoption of this standard did not have a material impact on the Company’s condensed consolidated financial statements.

In April 2008, the FASB issued Staff Position (FSP) No. FAS 142-3, "Determination of the Useful Life of Intangible Assets" (FSP 142-3). FSP 142-3 amends the factors that should be considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset under SFAS No. 142, "Goodwill and Other Intangible Assets" (SFAS 142). FSP 142-3 is effective for calendar-year companies beginning January 1, 2009. The requirement for determining useful lives must be applied prospectively to intangible assets acquired after the effective date and the disclosure requirements must be applied prospectively to all intangible assets recognized as of, and subsequent to, the effective date. The adoption of this standard did not have a material impact on the Company's condensed consolidated financial statements.

In April 2009, the FASB issued FSP No. FAS 141(R)-1, "Accounting for Assets Acquired and Liabilities Assumed in a Business Combination That Arise from Contingencies." FSP FAS 141(R)-1 amends the provisions in Statement 141R for the initial recognition and measurement, subsequent measurement and accounting, and disclosures for assets and liabilities arising from contingencies in business combinations. The FSP is effective for contingent assets or contingent liabilities acquired in business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. The adoption of this standard did not have a material impact on the Company's condensed consolidated financial statements.

2. Discontinued Operations

Oncology Product Line

On September 7, 2006, the Company, Eisai Inc., a Delaware corporation and Eisai Co., Ltd., a Japanese company (together with Eisai Inc., "Eisai"), entered into a purchase agreement (the "Oncology Purchase Agreement") pursuant to which Eisai agreed to acquire all of the Company's worldwide rights in and to the Company's oncology products, including, among other things, all related inventory, equipment, records and intellectual property, and assume certain liabilities as set forth in the Oncology Purchase Agreement. The Oncology product line included the Company's four marketed oncology drugs: ONTAK, Targretin capsules, Targretin gel and Panretin gel. For the three months ended March 31, 2009 and 2008, the Company recorded pre-tax gains of $0.2 million and $0.9 million, respectively, due to subsequent changes in certain estimates of assets and liabilities recorded as of the sale date.

Prior to the Oncology sale, the Company recorded accruals for rebates, chargebacks, and other discounts related to Oncology products when product sales were recognized as revenue under the sell-through method. Upon the Oncology sale, the Company accrued for rebates, chargebacks, and other discounts related to Oncology products in the distribution channel which had not sold-through at the time of the Oncology sale and for which the Company retained the liability subsequent to the sale. These products expired at various dates through July 31, 2008. The Company's accruals for Oncology rebates, chargebacks, and other discounts total $0.3 million and $0.4 million as of March 31, 2009 and December 31, 2008, respectively.

Additionally, and pursuant to the terms of the Oncology Purchase Agreement, the Company retained the liability for returns of product from wholesalers that had been sold by the Company prior to the close of the transaction. Accordingly, as part of the accounting for the gain on the sale of the Oncology Product Line, the Company recorded a reserve for Oncology product returns. Under the sell-through revenue recognition method, the Company previously did not record a reserve for returns from wholesalers. Oncology products sold by the Company may be returned through a specified period subsequent to the product expiration date, but no later than July 31, 2009. The Company's reserve for Oncology returns is $0.4 million and $0.9 million as of March 31, 2009 and December 31, 2008, respectively.

AVINZA Product Line

On September 6, 2006, the Company and King Pharmaceuticals, Inc. ("King"), entered into a purchase agreement (the "AVINZA Purchase Agreement"), pursuant to which King agreed to acquire all of the Company's rights in and to AVINZA in the United States, its territories and Canada, including, among other things, all AVINZA inventory, records and related intellectual property, and assume certain liabilities as set forth in the AVINZA Purchase Agreement (collectively, the "Transaction").

Pursuant to the AVINZA Purchase Agreement, at the closing on February 26, 2007 (the "Closing Date"), the Company received $280.4 million in net cash proceeds, which is net of $15.0 million that was funded into an escrow account to support any potential indemnification claims made by King following the closing.

In connection with the sale, the Company agreed to indemnify King in certain cases for a period of 30 months after the closing of the Transaction, including any breach of certain of the Company's representations, warranties or covenants contained in the asset purchase agreement. Under the Company's agreement with King, $15.0 million of the total upfront cash payment was deposited into an escrow account to secure the Company's indemnification obligations to King following the closing of the Transaction. Of the escrowed amount, $7.5 million was released to the Company in August 2007, and the remaining $7.5 million, plus interest of $0.6 million, was released to the Company in February 2008 and recorded as gain on sale of the AVINZA product line.

Prior to the AVINZA sale, the Company recorded accruals for rebates, chargebacks, and other discounts related to AVINZA products when product sales were recognized as revenue under the sell-through method. Upon the AVINZA sale, the Company accrued for rebates, chargebacks, and other discounts related to AVINZA products in the distribution channel which had not sold-through at the time of the AVINZA sale and for which the Company retained the liability subsequent to the sale. These products expire at various dates through June 30, 2009. The Company's accruals for AVINZA rebates, chargebacks, and other discounts total $0.1 million and $0.1 million as of March 31, 2009 and December 31, 2008, respectively.

Additionally, and pursuant to the terms of the AVINZA Purchase Agreement, the Company retained the liability for returns of product from wholesalers that had been sold by the Company prior to the close of the transaction. Accordingly, as part of the accounting for the gain on the sale of AVINZA, the Company recorded a reserve for AVINZA product returns. AVINZA products sold by the Company may be returned through a specified period subsequent to the product expiration date, but no later than December 31, 2009. Under the sell-through revenue recognition method, the Company previously did not record a reserve for returns from wholesalers. The Company's reserve for AVINZA returns is $4.8 million and $8.2 million as of March 31, 2009 and December 31, 2008, respectively.

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 fair value of these certain financial assets and liabilities was determined using the following inputs at March 31, 2009:

	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:				
Fixed income available-for-sale securities	$47,684	$ 46,109	$ 1,575	$ —
Total assets	$47,684	$ 46,109	$ 1,575	$ —
Liabilities:				
Warrant liability	$ 673	$ —	$ —	$ 673
Total liabilities	$ 673	$ —	$ —	$ 673

The Company's short-term investments are fixed income available-for-sale securities and include U.S. Government Notes and Corporate Discount Commercial Paper. The fair value of the Company's short-term investments are determined using quoted market prices in active markets. The fair value of the warrant liability is determined using the Black-Scholes option-pricing model, which uses certain significant observable inputs, including stock price (quoted market prices in active market), warrant exercise price (defined in warrant agreement), expected life of warrant (defined in warrant agreement), dividend yields (determined by the Company), and risk-free interest rate (quoted market prices based on expected life assumption).

4. AVINZA Co-Promotion

In February 2003, the Company and Organon Pharmaceuticals USA Inc. ("Organon") announced that they had entered into an agreement for the co-promotion of AVINZA. Subsequently in January 2006, the Company signed an agreement with Organon that terminated the AVINZA co-promotion agreement between the two companies and returned AVINZA co-promotion rights to Ligand. In consideration of the early termination and return of rights under the terms of the agreement, the Company agreed to and paid Organon $37.8 million in October 2006. The Company further agreed to and paid Organon $10.0 million in January 2007, in consideration of certain minimum

sales calls during a Transition Period. In addition, following the Transition Period, the Company agreed to make 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.

On February 26, 2007, the Company consummated its agreement with King pursuant to which King acquired all of the Company's rights in and to AVINZA, assumed certain liabilities, and reimbursed the Company the $47.8 million previously paid to Organon (comprised of the $37.8 million paid in October 2006 and the $10.0 million that the Company paid in January 2007). King also assumed the Company's co-promote termination obligation to make payments to Organon based on net sales of AVINZA. In connection with King's purchase of AVINZA, Organon did not consent to the legal assignment of the co-promote termination obligation to King. Accordingly, the Company remains liable to Organon in the event of King's default of the obligation. Therefore, the Company recorded an asset as of February 26, 2007 to recognize King's assumption of the obligation, while continuing to carry the co-promote termination liability in the Company's consolidated financial statements to recognize the Company's legal obligation as primary obligor to Organon as required under SFAS No. 140, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*. This asset represents a non-interest bearing receivable for future payments to be made by King and is recorded at its fair value based on management's estimate of future sales of AVINZA. As of March 31, 2009 and thereafter, the receivable and liability will remain equal and adjusted each quarter for changes in the estimated 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). As of March 31, 2009 and December 31, 2008, the fair value of the co-promote termination liability (and the corresponding receivable) was determined using a discount rate of 15%.

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

A summary of the co-promote termination liability as of March 31, 2009 is as follows (in thousands):

Net present value of payments based on estimated future net AVINZA product sales as of December 31, 2008	$ 58,482
Assumed payments made by King or assignee	(2,113)
March 31, 2009 fair value adjustment of estimated future payments based on estimated future net AVINZA product sales	1,634
Total co-promote termination liability as of March 31, 2009	58,003
Less: current portion of co-promote termination liability as of March 31, 2009	(11,197)
Long-term portion of co-promote termination liability as of March 31, 2009	$ 46,806

5. Property Leases

The Company leases an 82,500 square foot office and laboratory facility in San Diego, California through November 2021. Under the terms of the lease, the Company pays a basic annual rent of $3.0 million (subject to an annual fixed percentage increase, as set forth in the agreement), plus a 1% annual management fee, property taxes and other normal and necessary expenses associated with the lease including, but not limited to, utilities and repairs and maintenance. The Company has the right to extend the lease for two five-year terms and will have the first right of refusal to lease, at market rates, any facilities built on the sold lots.

The Company leases approximately 99,000 square feet in three facilities in Cranbury, New Jersey under leases that expire in 2016. The leases for the New Jersey facilities provide generally for scheduled rent increases, options to extend the leases with certain changes to the terms of the lease agreement, and refurbishment allowances.

The Company also leases an office and research facility in San Diego, California under an operating lease arrangement through July 2015. The Company fully vacated this facility in February 2008. The lease agreement provides for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases ranging from 3% to 7%. Commencing January 2008, the Company sublet this facility through July 2015. The

sublease agreement provides for a 3% increase in annual rents. As of March 31, 2009, the Company expects to receive aggregate future minimum lease payments totaling $5.5 million (nondiscounted) over the duration of the sublease agreement. In accordance with SFAS No. 146 (As Amended) "Accounting for Costs Associated with Exit or Disposal Activities," the Company recorded a net charge to operating expenses of $4.3 million for exit costs when it fully ceased use of this facility in the first quarter of 2008. The net charge consisted of a $6.5 million charge for future rent payments offset by a $2.3 million reversal of deferred rent. As of March 31, 2009 and December 31, 2008, $4.8 million and $5.0 million, respectively, has been recorded as a liability for these exit costs on the condensed consolidated balance sheets.

6. Litigation

The SEC issued a formal order of private investigation dated September 7, 2005, which was furnished to the Company's legal counsel on September 29, 2005, to investigate the circumstances surrounding the Company's restatement of its consolidated financial statements for the years ended December 31, 2002 and 2003, and for the first three quarters of 2004. In April 2009, the Company received notification from the SEC that it had completed its investigation and is not recommending enforcement action at this time against the Company relating to the previously disclosed SEC investigation in connection with the restatement of the Company's financial statements as of and for the years ended December 31, 2002 and 2003 and for the first three quarters of 2004. As a result, in April 2009, the Company received $10.3 million from a restricted indemnity account which had been established in a trust account with Dorsey & Whitney LLP, counsel to the Company's independent directors and to the Audit Committee of the Company's Board of Directors, to support the Company's indemnification obligations to continuing and departing directors in connection with the SEC investigation and related matters.

On March 4, 2008, The Rockefeller University (Rockefeller) filed suit against the Company alleging, among other things, a breach by the Company of their September 30, 1992 license agreement with Rockefeller, as well as other causes of action for unjust enrichment, quantum meruit, specific performance to perform an audit and declaratory relief. In February 2009, the Company reached a settlement with Rockefeller whereby the parties resolved all disputes that have arisen between them, including Rockefeller's primary claim relating to the development of PROMACTA as well the Company's counterclaims. As part of the settlement, the parties executed mutual releases and agreed to jointly seek dismissal with prejudice of all claims, demands and causes of action, whether known or unknown, arising out of or based upon the license agreement, the ongoing litigation, PROMACTA, LGD-4665, and any other compound developed by the Company that was subject to the license agreement. The Company also agreed to pay Rockefeller $5.0 million immediately upon settlement, $1.0 million on or before February 10, 2010, $1.0 million on or before February 10, 2011, and 50% of any milestone payment and 5.88% to 7.0% of certain royalties, in each case received by the Company pursuant to an agreement with SmithKline Beecham Corporation (now known as GlaxoSmithKline) entered into on December 29, 1994. The Company also agreed to pay Rockefeller 1.5% of world-wide net sales of LGD-4665 as certain payments are received by the Company pursuant to its agreement with SmithKline Beecham Corporation entered into on December 17, 2008. As of March 31, 2009, the Company has recorded a liability of $2.0 million related to the settlement, which is included in other long term liabilities in the accompanying balance sheets.

On October 10, 2008, the Company received notice that a putative class action complaint was filed in the Superior Court of New Jersey, Mercer County (Equity Division) by Allen Heilman, one of Phamacopeia's stockholders, against Pharmacopeia, the members of its Board of Directors, Ligand and two of Ligand's wholly owned subsidiaries. The complaint generally alleges that Pharmacopeia's Board of Directors' decision to enter into the proposed transaction with Ligand on the terms contained in the proposed merger agreement constitutes a breach of fiduciary duty and gives rise to other unspecified state law claims. The complaint also alleges that Ligand and two of Ligand's wholly owned subsidiaries aided and abetted Pharmacopeia's Board of Directors' breach of fiduciary duty. In addition, the complaint alleges that the named plaintiff will seek "equitable relief," including among other things, an order preliminarily and permanently enjoining the proposed transaction. While the Company believes that neither Ligand nor Pharmacopeia engaged in any wrongful acts, in an effort to minimize the cost and expense of any litigation, in December 2008, the Company entered into a memorandum of understanding, or MOU, with the named plaintiff providing for the settlement of the lawsuit. Subject to court approval and further definitive documentation, the MOU provides a release and settlement by the purported class of all claims against Pharmacopeia, Ligand, and Ligand's affiliates and agents in connection with the complaint. Pursuant to the MOU, the Company has agreed not to oppose any fee application by plaintiffs' counsel that does not exceed $0.2 million, which has been recorded as a liability at March 31, 2009.

In addition, from time to time the Company is subject to various lawsuits and claims with respect to matters arising out of the normal course of its business. Due to the uncertainty of the ultimate outcome of these matters, the impact on future financial results is not subject to reasonable estimates.

7. Acquisition of Pharmacopeia

On December 23, 2008, the Company completed the acquisition of Pharmacopeia, Inc., a clinical development stage biopharmaceutical company dedicated to discovering and developing novel small molecule therapeutics to address significant medical needs, under which the Company acquired all outstanding shares of Pharmacopeia in a cash and stock transaction. The acquisition was accounted for as a business combination. In connection with the acquisition, the Company issued 17,997,039 shares of common stock to Pharmacopeia stockholders, or 0.5985 shares for each outstanding Pharmacopeia share, as well as $9.3 million in cash. The value of the common stock issued was derived from the number of Ligand common shares issued at a price of $3.14 per share determined by the average closing price of Ligand shares for the two days prior, the day of, and the two days subsequent to the public announcement on September 24, 2008. In addition, Pharmacopeia security holders received a contingent value right (CVR) that entitles each holder the right to receive a proportionate share of an aggregate of $15.0 million if Ligand enters into a license, sale, development, marketing or option agreement with respect to any product candidate from Pharmacopeia's DARA program (other than any agreement with Bristol-Meyers Squibb or any of its affiliates) on or prior to December 31, 2011. The estimated fair value of the CVRs is not included in the total purchase price as the Company's management has deemed, based on currently available information, that the likelihood of payment is not probable. The results of Pharmacopeia's operations have been included in the consolidated financial statements commencing December 23, 2008.

During the three months ended March 31, 2009, the Company finalized its purchase price allocation for Pharmacopeia, which resulted in an increase in transaction costs of $0.3 million and decreases in property and equipment of $1.1 million, liabilities assumed of $4.4 million and goodwill of $3.0 million. The components of the final purchase price allocation for Pharmacopeia are as follows:

Purchase Consideration:	
(in thousands)	
Fair value of common stock issued to Pharmacopeia shareholders	$ 56,439
Cash paid to Pharmacopeia shareholders	9,337
Transaction costs	4,558
Total purchase consideration	$ 70,334
Allocation of Purchase Price:	
(in thousands)	
Cash acquired	$ 17,754
Other current assets	1,390
Property and equipment	10,408
Acquired intangible assets	2,000
In-process research and development	72,000
Goodwill	347
Other assets	144
Liabilities assumed	(33,709)
	$ 70,334

8. Warrant Liability

In connection with the acquisition of Pharmacopeia, the Company assumed approximately 867,637 warrants (as adjusted as a result of the merger from the original 1,450,000) to purchase its common stock. Under EITF 00-19, to qualify as permanent equity, an equity derivative must permit the issuer to settle in unregistered shares. Under securities law, if the warrants were issued in connection with a public offering and have a cash settlement feature at the holder's option, a company does not have the ability to settle in unregistered shares. Therefore, the warrants cannot be classified as permanent equity and are instead classified as a liability. The warrants issued as part of Pharmacopeia's equity financing in October 2006 meet this criteria, and have been recorded as a liability in the accompanying balance sheet. The fair value of the warrants will be remeasured at each reporting date until the warrants are exercised or have expired. Changes in the fair value of the warrants are reported in the statement of operations as income (decreases) or expense (increases).

At March 31, 2009 and December 31, 2008, the fair value of the warrants was approximately $0.7 million and included in accrued liabilities.

The fair value of the warrants was calculated using the Black-Scholes option-pricing model with the following assumptions at March 31, 2009 and December 31, 2008:

	March 31, 2009	December 31, 2008
Risk-free interest rate	1.2%	1.0%
Dividend yield	—	—
Expected volatility	78%	78%
Expected term	3.1 years	3.3 years

9. Reductions in Workforce

In December 2008, Pharmacopeia announced a reduction in its workforce of thirty positions, twenty-two of which were eliminated effective December 31, 2008 and the remaining eight of which will be eliminated effective June 30, 2009. Accrued severance costs for those positions eliminated prior to December 31, 2008 of $0.1 million and $0.7 million were included in the accrued restructuring costs as of March 31, 2009 and December 31, 2008, respectively. Also included in accrued restructuring costs was a $0.2 million of costs to exit a leased facility which is comprised of the difference between the remaining lease obligations of the abandoned operating leases, which run through the year 2016, and the Company's estimate of potential future sublease income, discounted to present value.

10. Note Payable

In December 2006, Pharmacopeia entered into a loan and security agreement (the Line of Credit) with a lending institution to provide up to a total of $5.0 million in funding in the form of term loans, from time to time through December 2008. Term loans secured by laboratory equipment have a fixed term of 48 months. Term loans secured by all other collateral categories have a fixed term of 36 months.

As of December 31, 2008, the aggregate balance of term loans originated under the Line of Credit was approximately $3.4 million, of which approximately $2.1 million was classified as equipment financing obligations, long-term. Interest rates on these term loans range from 10.08% to 10.28%. The Company paid off the Line of Credit in full in January 2009.

11. Common Stock Subject to Conditional Redemption

During the three months ended March 31, 2009, the Company earned a milestone from Pfizer, Inc. (Pfizer). Pursuant to the Company's 1991 research agreement and 1996 settlement agreement with Pfizer, Pfizer elected to pay the milestone by returning 323,338 shares of stock it owns in the Company, which at the date the milestone was earned had a market value of $0.9 million. The Company is entitled to royalties on future sales from Pfizer, which pursuant to the 1996 settlement agreement, Pfizer may elect to pay by returning up to 665,230 shares of stock it owns in Ligand.

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 Item 1A "Risk Factors." This outlook represents our current judgment on the future direction of our business. These statements include those related to our AVINZA and PROMACTA royalty revenues, product returns, and product development. Actual events or results may differ materially from our expectations. For example, there can be no assurance that our revenues or expenses will meet any expectations or follow any trend(s), that we will be able to retain our key employees or that we will be able to enter into any strategic partnerships or other transactions. We cannot assure you that we will receive expected AVINZA and PROMACTA 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 — Ligand Pharmaceuticals (Canada) Incorporated; Ligand Pharmaceuticals International, Inc.; Seragen, Inc. ("Seragen"); Nexus Equity VI LLC ("Nexus"); and Pharmacopeia LLC.

Overview

We are a biotechnology company that focuses on drug discovery and early-stage development 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. Our goal is to build a profitable company by generating income from research, milestone, and royalty revenues resulting from our collaborations with pharmaceutical partners.

On December 23, 2008, we acquired all of the outstanding common shares of Pharmacopeia, Inc., or Pharmacopeia. As consideration, we issued 18.0 million shares of our common stock to Pharmacopeia stockholders, or 0.5985 shares for each outstanding Pharmacopeia share, as well as approximately $9.3 million in cash. Security holders of Pharmacopeia also received contingent value rights, under which they could receive an aggregate cash payment of $15.0 million under certain circumstances. Pharmacopeia was a clinical development stage biopharmaceutical company dedicated to discovering and developing novel small molecule therapeutics to address significant medical needs. Pharmacopeia's strategy was to retain the rights to product candidates at least to clinical validation, and to continue development on its own New Drug Application, or NDA, filings and commercialization for selected indications. Pharmacopeia had a broad portfolio of clinical and preclinical candidates under development internally or by partners.

Our business strategy includes a targeted internal drug research and early-stage development capabilities. We also have research and development collaborations for our product candidates with numerous global pharmaceutical companies. We aim to create value for shareholders by advancing our internally developed programs through early clinical development and then entering licensing agreements with larger pharmaceutical and biotechnology companies with substantially greater development and commercialization infrastructure. In addition to advancing our R&D programs, we expect to collect licensing fees and royalties from existing and future license agreements. We aim to build a profitable company by generating income from our corporate licenses.

We currently receive royalty revenues from King Pharmaceuticals, or King, and GlaxoSmithKline, or GSK. In February 2007, we completed the sale of our AVINZA product line to King. As a result of the sale, we received the right to future royalties on the net sales of AVINZA through 2017. Through October 2008, we received a 15% royalty on AVINZA net sales. Subsequent royalty payments are to be based upon calendar year net sales. If calendar year net sales are less than $200.0 million, the royalty payment due will be 5% of all net sales. If calendar year net sales are greater than $200.0 million, the royalty payment due will be 10% of all net sales less than $250.0 million, plus 15% of net sales greater than $250.0 million.

In November 2008, the U.S. Food and Drug Administration, or FDA, granted approval of GSK's PROMACTA for the treatment of thrombocytopenia in patients with chronic immune (idiopathic) thrombocytopenic purpura, or ITP, who have had an insufficient response to corticosteroids, immunoglobulins or splenectomy. PROMACTA is the first oral thrombopoietin, or TPO, receptor agonist therapy for the treatment of adult patients with chronic ITP. As a result of the FDA's approval of PROMACTA, we will be entitled to receive tiered royalties in the range of 4.7%-9.3% on annual net sales of PROMACTA. As part of a settlement agreement and mutual release we entered into on February 11, 2009 with The Rockefeller University, or Rockefeller, we agreed to pay a share of such royalties to Rockefeller.

In March 2009, Pfizer received approval from the European Commission (EC) for FABLYN® (lasofoxifene) Tablets, a selective estrogen receptor modulator (SERM) for the treatment of osteoporosis in post-menopausal women at increased risk of fracture. As a result, we earned a milestone which, pursuant to our 1991 research agreement and 1996 settlement agreement with Pfizer, Pfizer elected to pay by returning 323,338 shares of stock it owns in Ligand, which at the date the milestone was earned had a market value of $0.9 million. We are entitled to royalties on future sales from Pfizer, which pursuant to the 1996 settlement agreement, Pfizer may elect to pay by returning up to 665,230 shares of stock it owns in Ligand. Pfizer also submitted an NDA for osteoporosis treatment in December 2007. The FDA Advisory Committee in early September 2008 voted 9-3 in favor of approval of this drug and in January 2009, Pfizer received a complete response letter from the FDA requesting additional information for FABLYN. Pfizer is reviewing the letter and intends to work with the FDA to determine the appropriate next steps regarding its application. Pfizer has also submitted NDAs for osteoporosis prevention and vaginal atrophy, and the FDA issued non-approvable letters for both NDAs. Under the terms of our agreement with Pfizer, we are entitled to receive royalty payments equal to 6% of worldwide net sales of lasofoxifene for any indication. We previously sold to Royalty Pharma the rights to a total of 3% of net sales of lasofoxifene for a period of ten years following the first commercial sale of lasofoxifene. Accordingly, we will receive approximately 3% of worldwide net annual sales of lasofoxifene.

We also have the potential to receive near-term royalties on product candidates resulting from our research and development collaboration arrangements with third party pharmaceutical companies if and when any such product candidate is ultimately approved by the FDA and successfully marketed. Our near-term product candidates are discussed below.

In addition to the approval granted for GSK's PROMACTA for the treatment of thrombocytopenia in patients with chronic ITP, the compound is also being studied for thrombocytopenia associated with chronic hepatitis C virus, chronic liver disease and oncology-related thrombocytopenia. Two Phase III studies in hepatitis C and one Phase III in chronic liver disease are ongoing. In December 2008, GSK submitted a marketing authorization application in the EU and international for Revolade (Eltrombopag) for the treatment of thrombocytopenia in patients with chronic immune (idiopathic) thrombocytopenic purpura, or ITP.

Bazedoxifene is a product candidate that resulted from a collaboration with Wyeth. Bazedoxifene is a synthetic drug that was specifically designed to reduce the risk of osteoporotic fractures while at the same time protecting breast and uterine tissue. In June 2006, Wyeth submitted an NDA for bazedoxifene to the FDA for the prevention of postmenopausal osteoporosis. The FDA issued an approvable letter for bazedoxifene for this indication in April 2007. Wyeth received a second approvable letter in December 2007 and plans to have further discussions with the FDA to discuss the issues raised for the prevention indication. Wyeth also submitted a second NDA for bazedoxifene in the United States in July 2007 for the treatment of osteoporosis and a marketing authorization application (MAA) to the European Medicines Agency (EMEA) in September 2007 for the prevention and treatment of osteoporosis. Wyeth received a third approvable letter in the second quarter of 2008 for bazedoxifene for the treatment of osteoporosis. In the letter, the FDA requested information similar to that outlined in its approvable letter for bazedoxifene's NDA for the prevention of postmenopausal osteoporosis issued in December 2007. This included further analyses concerning the incidence of stroke and venous thrombotic events. Wyeth indicated that it will file a complete response in 2009 and expects the FDA will convene an advisory committee to review the pending NDAs for both the treatment and prevention of postmenopausal osteoporosis with bazedoxifene. In April 2009, Wyeth received approval from the EC for CONBRIZA™ (bazefoxifene) for the treatment of post-menopausal osteoporosis in women at increased risk of fracture. As a result, we earned a $0.6 million milestone and are entitled to royalties on future sales.

Wyeth is also developing bazedoxifene in combination with PREMARIN (Aprela) for the treatment of moderate to severe menopausal vasomotor symptoms, such as hot flashes and night sweats, and for the prevention of post-menopausal osteoporosis. Two Phase III studies with bazedoxifene/conjugated estrogens (Aprela), showed reduced number and severity of hot flashes in symptomatic postmenopausal women by up to 80 percent, when compared with placebo. Wyeth expects to file an initial NDA no earlier than the first half of 2010.

We previously sold to Royalty Pharma AG, or Royalty Pharma, the rights to a total of 3.0% of net sales of bazedoxifene for a period of ten years following the first commercial sale of each product. After giving effect to the royalty sale, we will receive 0.5% of the first $400.0 million in net annual sales. If net annual sales are between $400.0 million and $1.0 billion, we will receive a net royalty of 1.5% on the portion of net sales between $400.0

million and $1.0 billion, and if annual sales exceed $1.0 billion, we will receive a net royalty of 2.5% on the portion of net sales exceeding $1.0 billion. Additionally, the royalty owed to Royalty Pharma may be reduced by one third if net product sales exceed certain thresholds across all indications.

In December 2008, we entered into an exclusive, worldwide license agreement with SmithKline Beecham Corporation, doing business as GSK. Pursuant to the terms of the GSK agreement, we granted GSK the exclusive right to develop, manufacture and commercialize our LGD-4665 product candidate, as well as all other TPO-related molecules discovered by us. Under the terms of the GSK agreement, GSK paid us $5 million as an upfront license fee and agreed to pay us up to $158.0 million in development and commercial milestones and a royalty on net sales. In the first year of sales, royalties will be one-half of the regular royalty rate. GSK has the exclusive right to develop, manufacture and commercialize LGD-4665, as well as other TPO-related molecules discovered by us. GSK will direct all product development and commercialization and will be responsible for all costs going forward for development, patent maintenance and prosecution, and commercialization.

Results of Operations

Total revenues for the three months ended March 31, 2009 were $9.5 million, compared to $4.9 million for the same 2008 period. Our loss from continuing operations for the three months ended March 31, 2009 was $7.5 million, compared to $9.7 million for the same 2008 period.

Royalty Revenue

Royalty revenues were $2.7 million for the three months ended March 31, 2009, compared to $4.9 million for the same period in 2008. The decrease in royalty revenues of $2.2 million is primarily due to a reduction in the contractual royalty rate from 15% to 5% under our agreement with King for AVINZA sales.

Collaborative Research and Development and Other Revenues

We recorded collaborative research and development and other revenues of $6.7 million for the three months ended March 31, 2009, compared to zero for the same period in 2008. The increase of $6.7 million is due to $2.4 million of milestones earned from Pfizer, Schering-Plough and GlaxoSmithKline as well as $4.3 million in collaboration revenues resulting from agreements acquired from Pharmacopeia.

Research and Development Expenses

The major components of research and development expenses are as follows (in thousands):

	Three Months Ended March 31,	
	2009	2008
Internal research programs	$ 3,434	$3,688
Collaborative research	3,504	—
Development	3,524	3,477
Total research and development	$10,462	$7,165

Research and development expenses were $10.5 million for the three months ended March 31, 2009, compared to $7.2 million for the same 2008 period. The increase of $3.3 million is primarily due to the costs associated with servicing our collaboration agreements that were acquired from Pharmacopeia in December 2008.

A summary of our significant internal research and development programs as of March 31, 2009 is as follows:

Program	Disease/Indication	Development Phase
Dual-Acting angiotensin and endothelin Receptor Antagonist (DARA)	Diabetic Nephropathy*	Phase II
Selective Androgen Receptor Modulators (SARMs) (agonists)	Muscle wasting and frailty	Pre-clinical
Chemokine Receptor (CCR1)	Inflammatory and autoimmune diseases	Pre-clinical
Small molecule Erythropoiein (EPO) receptor agonists	Chemotherapy-induced anemia and anemia due to kidney failure	Research
Selective Glucocorticoid Receptor Modulators (SGRMs)	Inflammation and cancer	Research
Androgen-independent Prostate Cancer (AiPC)	Prostate cancer	Research

* Phase II clinical trials conducted so far have studied patients with hypertension

We do not provide forward-looking estimates of costs and time to complete our ongoing research and development projects, as such estimates would involve a high degree of uncertainty. Uncertainties include our inability to predict the outcome of complex research, our inability to predict the results of clinical studies, regulatory requirements placed upon us by regulatory authorities such as the FDA and EMEA, our inability to predict the decisions of our collaborative partners, our ability to fund research and development programs, competition from other entities of which we may become aware 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 $6.8 million for the three months ended March 31, 2009, compared to $10.1 million for the same period in 2008. The decrease of $3.3 million is primarily due to $4.1 million of expenses incurred during the first quarter of 2008 as a result of exiting a facility, which was partially offset by an increase in legal expenses associated with settlements reached with Rockefeller University and the Securities and Exchange Commission (SEC) in the first quarter of 2009.

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 includes our corporate headquarter building totaling approximately 82,500 square feet, the land on which the building is situated, and two adjacent vacant lots. As part of the sale transaction, we agreed to leaseback the building for a period of 15 years. In accordance with SFAS 13, *Accounting for Leases*, 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 is recognized on a straight-line basis over the 15 year term of the lease at a rate of approximately $2.0 million per year. The amount of the deferred gain recognized for the three months ended March 31, 2009 and 2008 was $0.5 million and $0.5 million, respectively.

Interest Income

Interest income was $0.1 million for the three months ended March 31, 2009, compared to $0.9 million for the same period in 2008. The decrease of $0.8 million is primarily due to lower yields as a result of macro-economic conditions as well as lower cash and investment balances.

Income Taxes

We recorded no provision for income taxes for the three months ended March 31, 2009 as we did not realize any taxable income from either continuing or discontinued operations.

We had losses from continuing operations and income from discontinued operations for the three months ended March 31, 2008. In accordance with SFAS No. 109, *Accounting for Income Taxes*, the income tax benefit generated by the loss from continuing operations for the three months ended March 31, 2008 of $1.8 million captures the deemed use of losses from continuing operations used to offset the income from our AVINZA product line that was sold on February 26, 2007.

Net income tax expense combining both continuing and discontinued operations was $1.7 million for the three months ended March 31, 2008. This expense reflects the net tax due on taxable income generated by discontinued operations for the three months ended March 31, 2008 that was not fully offset by net operating losses and research and development credit carryforwards due to federal and state alternative minimum tax requirements, and from state income taxes for certain states incurred after full utilization of state net operating loss and research and development credits.

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.

Prior to the Oncology sale, we recorded accruals for rebates, chargebacks, and other discounts related to Oncology products when product sales were recognized as revenue under the sell-through method. Upon the Oncology sale, we accrued for rebates, chargebacks, and other discounts related to Oncology products in the distribution channel which had not sold-through at the time of the Oncology sale and for which we retained the liability subsequent to the Oncology sale.

Additionally, and pursuant to the terms of the Oncology 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 the Oncology product line, we recorded a reserve for Oncology product returns. Under the sell-through revenue recognition method, we previously did not record a reserve for returns from wholesalers.

During the three months ended March 31, 2009 and 2008, we recognized a $0.2 million and $0.9 million pre-tax gain, respectively, 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 Pharmaceuticals, Inc., or 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 AVINZA Purchase Agreement, at the closing on February 26, 2007, which we refer to as the Closing Date, we received $280.4 million in net cash proceeds, which is net of $15.0 million that was funded into an escrow account to support any potential indemnification claims made by King following the closing of the Transaction.

In connection with the sale, we agreed to indemnify King in certain cases for a period of 30 months after the closing of the Transaction, including any breach of certain of our representations, warranties or covenants contained in the Avinza Purchase Agreement. Under our agreement with King, $15.0 million of the total upfront cash payment was deposited into an escrow account to secure our indemnification obligations to King following the closing. Of the escrowed amount, $7.5 million was released to us in August 2007, and the remaining $7.5 million, plus interest of $0.6 million, was released to us in February 2008 and recorded as gain on sale of our AVINZA product line.

Prior to the AVINZA sale, we recorded accruals for rebates, chargebacks, and other discounts related to AVINZA products when product sales were recognized as revenue under the sell-through method. Upon the AVINZA sale, we accrued for rebates, chargebacks, and other discounts related to AVINZA products in the distribution channel which had not sold-through at the time of the AVINZA sale and for which we retained the liability subsequent to the sale.

Additionally, and 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. Under the sell-through revenue recognition method, we previously did not record a reserve for returns from wholesalers.

During the three months ended March 31, 2009 and 2008, we recognized a gain of $2.1 million and $8.3 million, respectively. The gain for the three months ended March 31, 2009 primarily related to subsequent changes in certain estimates and liabilities recorded as of the sale date. The gain for the three months ended March 31, 2008 primarily related to the $8.1 million pre-tax gain resulting from the release of funds from an escrow account as well as changes in certain estimates and liabilities recorded as of the sale date.

Income Taxes

For the three months ended March 31, 2008 we recorded income tax expense on discontinued operations of $3.5 million. The tax expense primarily reflects the net tax due on taxable income that was generated by the release of escrow funds from the sale of our AVINZA product line.

Liquidity and Capital Resources

We have financed our operations through private and public offerings of our equity securities, collaborative research and development and other revenues, issuance of convertible notes, product sales and the subsequent sales of our commercial assets, capital and operating lease transactions, accounts receivable factoring and equipment financing arrangements and investment income. In March 2007, we announced that our board of directors had authorized a stock repurchase program under Rule 10b-18 of the Securities Exchange Act of 1934, as amended, of up to $100 million of shares of our common stock in the open market and negotiated purchases over a period of 12 months. We repurchased an aggregate of 6.5 million shares of our common stock totaling $41.2 million prior to the close of the repurchase period on March 31, 2008.

Working capital was $14.8 million at March 31, 2009 compared to $23.3 million at December 31, 2008. Available cash, cash equivalents and short-term investments totaled $52.6 million as of March 31, 2009 compared to $80.7 million as of December 31, 2007. We primarily invest our cash in United States government and investment grade corporate debt securities.

On July 19, 2007, we purchased $5.0 million of commercial paper issued by Golden Key Ltd. The investment was highly-rated and within our investment policy at the time of purchase, but during the third quarter of 2007, large credit rating agencies downgraded the quality of this security. In addition, as a result of not meeting certain liquidity covenants, the assets were assigned to a trustee who established a committee of the largest senior credit holders to determine the next steps. Subsequently, Golden Key defaulted on its obligation to settle the security on the stated maturity date of October 10, 2007. Based on available information, we currently estimate that we will be able to recover approximately $1.6 million on this security. Accordingly, we adjusted the carrying value by recording an impairment loss of $0.1 million during the three months ended March 31, 2009. Further, liquidity in the capital markets has continued to be volatile. Accordingly, we may be exposed to additional impairment for this investment until it is fully recovered.

In April 2009, we received notification from the SEC that it had completed its investigation and will not recommend enforcement action against us relating to the previously disclosed SEC investigation in connection with the restatement of our financial statements as of and for the years ended December 31, 2002 and 2003 and for the first three quarters of 2004. As a result, in April 2009, we received $10.3 million from a restricted indemnity account which had been established in a trust account with Dorsey & Whitney LLP, counsel to our independent directors and to the Audit Committee of our Board of Directors, to support our indemnification obligations to continuing and departing directors in connection with the SEC investigation and related matters.

Based on our current business outlook, we believe our currently available cash, cash equivalents, and short-term investments as well as our current and future royalty 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 AVINZA and PROMACTA; and the efforts of our collaborative partners. We will also consider additional equipment financing arrangements similar to arrangements currently in place.

Operating Activities

Operating activities used cash of $22.8 million for the three months ended March 31, 2009, compared to $5.9 million for the same period in 2008. The cash used in operating activities for the three months ended March 31, 2009 includes $8.5 million of non-recurring litigation settlement payments to Rockefeller University and the Salk Institute.

The use of cash for the three months ended March 31, 2009 reflects a net loss of $5.1 million, adjusted by $2.4 million of gain from discontinued operations and $1.7 million of non-cash items to reconcile the net loss to net cash used in operations. These reconciling items primarily reflect the recognition of $0.8 million of stock-based compensation expense, depreciation of assets of $0.8 million, realized loss on investment of $0.1 million, non-cash lease costs of $0.3 million and the amortization of acquired intangible assets of $0.2 million, partially offset by the accretion of deferred gain on the sale leaseback of the building of $0.5 million. The use of cash during the three months ended March 31, 2009 is further impacted by changes in operating assets and liabilities due primarily to decreases in accounts payable and accrued liabilities of $3.9 million, a decrease in accrued litigation settlement costs of $8.5 million, an increase in accounts receivable, net of $2.7 million and a decrease in deferred revenue of $2.2 million partially offset by a decrease in other current assets of $0.8 million. Net cash used in operating activities of discontinued operations was $1.3 million for the three months ended March 31, 2009.

The use of cash for the three months ended March 31, 2008 reflects a net loss of $3.9 million, adjusted by $5.8 million of gain from discontinued operations and $6.1 million of non-cash items to reconcile the net loss to net cash used in operations. These reconciling items primarily reflect the recognition of $1.0 million of stock-based compensation expense, depreciation of assets of $0.3 million, realized loss on investment of $0.5 million, non-cash lease costs of $4.1 million and the write-off of assets of $0.7 million, partially offset by the accretion of deferred gain on the sale leaseback of the building of $0.5 million. The use of cash during the three months ended March 31, 2008 is further impacted by changes in operating assets and liabilities due primarily to decreases in accounts payable and accrued liabilities of $4.4 million partially offset by decreases in other current assets of $2.0 million. Net cash used in operating activities of discontinued operations was $3.5 million for the three months ended March 31, 2008.

Investing Activities

Investing activities provided cash of $3.9 million for the three months ended March 31, 2009, compared to $5.8 million of cash used in investing activities for the same 2008 period.

Cash provided by investing activities during the three months ended March 31, 2009 primarily reflects the net proceeds from the sale of short-term investments of $4.1 million partially offset by purchases of property and equipment of $0.2 million. Net cash provided by investing activities of discontinued operations was zero for the three months ended March 31, 2009.

Cash used in investing activities during the three months ended March 31, 2008 primarily reflects the net purchases of short-term investments of $13.6 million and $0.2 million of purchases of property and equipment. Net cash provided by investing activities of discontinued operations was $8.1 million for the three months ended March 31, 2008.

Financing Activities

Financing activities used cash of $3.6 million for the three months ended March 31, 2009, compared to $2.1 million for the same 2008 period.

Cash used for the three months ended March 31, 2009 primarily reflects payments under equipment financing obligations of $0.2 million and the repayment of debt of $3.4 million related to an equipment line of credit acquired from Pharmacopeia that was paid off in February 2009.

Cash used for the three months ended March 31, 2008 primarily reflects payments under equipment financing obligations of $0.5 million and repurchases of our common stock of $1.6 million.

None of the cash used in financing activities for the three months ended March 31, 2009 and 2008 relates to discontinued operations.

Other

As part of our alliances with GSK, Wyeth, Cephalon and Schering-Plough and our discovery collaboration agreement with BMS, we have received up-front cash payments and licenses to certain product candidates. In connection with these agreements, we are obligated to perform significant research and development activities over multiple years and as such, expect to incur significant costs performing such activities. The following table provides the period over which these research and development activities are to be provided, as well as the deferred revenue currently recorded for each agreement as of March 31, 2009:

Collaborative Agreement	Expiration of Initial Research Term	Deferred Revenue
2007 Schering-Plough Agreement	February 2012	$ 3,237
BMS Discovery Collaboration Agreement	December 2010	7,642
GSK Agreement	March 2011	5,578
Wyeth Agreement	December 2009	1,373
Cephalon Agreement	May 2009	196

Certain of our property and equipment is pledged as collateral under various equipment financing arrangements. As of March 31, 2009, $0.4 million was outstanding under such arrangements with $0.3 million classified as current. During January 2009, we paid off the remaining $3.4 million of financing obligations acquired from Pharmacopeia, Inc. in December 2008.

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

Leases and Off-Balance Sheet Arrangements

We lease our office and research facilities under agreements accounted for as operating leases with varying terms through November 2021. The agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases ranging from 3% to 7%. Commencing January 2008, we also sublease a portion of our facilities through July 2015. The sublease agreement provides for a 3% increase in annual rents.

Contractual Obligations

As of March 31, 2009, future minimum payments due under our contractual obligations are as follows (in thousands):

	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Capital lease obligations (1)	$ 423	$ 368	$ 55	$ —	$ —
Operating lease obligations (2)	81,209	7,853	16,173	16,827	40,356
Consulting agreements	489	489	—	—	—
Co-promote termination liability (3)	—	—	—	—	—
Total contractual obligations	$82,121	$ 8,710	$16,228	$16,827	$ 40,356
(1) Includes interest payments as follows:	$ 21	$ 19	$ 2	$ —	$ —

(2) We lease an office and research facility under an operating lease arrangement through July 2015. Commencing January 2008, we sublet this facility through July 2015. The sublease agreement provides for a 3% increase in annual rents. As of March 31, 2009, we expect to receive aggregate future minimum lease payments totaling $5.5 million (nondiscounted) over the duration of the sublease agreement as follows: less than one year, $0.8 million; one to three years, $1.7 million; three to five years, $1.8 million; and more than five years, $1.2 million.

(3) Our co-promote termination obligation to Organon was assumed by King pursuant to the AVINZA Purchase Agreement. However, as Organon did not consent to the legal assignment of the obligation to King, we remain liable to Organon in the event of King's default of the obligation. We have excluded payments under the co-promote termination liability from the table as amounts are expected to be reimbursed by King. As of March 31, 2009, the total estimated amount of the obligation is $58.0 million on an undiscounted basis.

As of March 31, 2009, we have net open purchase orders (defined as total open purchase orders at year end less any accruals or invoices charged to or amounts paid against such purchase orders) totaling approximately $4.9 million. We plan to spend approximately $0.8 million on capital expenditures during the remainder of 2009.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

At March 31, 2009, our investment portfolio included fixed-income securities of $49.0 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 is not expected to have a material impact on our financial condition, results of operations or cash flows. At March 31, 2009, we also have certain equipment financing arrangements with variable rates of interest. Due to the relative insignificance of such arrangements, however, 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, while increases in interest rates over time will increase our interest expense.

We do not have a significant level of transactions denominated in currencies other than U.S. dollars and as a result we have limited foreign currency exchange rate risk. The effect of an immediate 10% change in foreign exchange rates would have no material impact on our financial condition, results of operations or cash flows.

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. Based on this evaluation, our principal executive officer and principal financial officer concluded as of the Evaluation Date that our disclosure controls and procedures were effective such that the information relating to us, including our consolidated subsidiaries, required to be disclosed in our SEC reports (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of any changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during our most recently completed fiscal quarter. Based on that evaluation, our principal executive officer and principal financial officer concluded that there has not been any change in our internal control over financial reporting during that quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The SEC issued a formal order of private investigation dated September 7, 2005, to investigate the circumstances surrounding restatement of our consolidated financial statements for the years ended December 31, 2002 and 2003, and for the first three quarters of 2004. In April 2009, the Company received notification from the SEC that it had completed its investigation and is not recommending enforcement action against the Company at this time relating to the previously disclosed SEC investigation in connection with the restatement of the Company's financial statements as of and for the years ended December 31, 2002 and 2003 and for the first three quarters of 2004. As a result, in April 2009, the Company received $10.4 million from a restricted indemnity account which had been established in a trust account with Dorsey & Whitney LLP, counsel to the Company's independent directors and to the Audit Committee of the Company's Board of Directors, to support the Company's indemnification obligations to continuing and departing directors in connection with the SEC investigation and related matters.

We and Seragen, Inc., our subsidiary, were named parties to *Sergio M. Oliver, et al. v. Boston University, et al.*, a shareholder class action filed on December 17, 1998 in the Court of Chancery in the State of Delaware. We and Seragen were dismissed from the action, but such dismissal is subject to appeal and we and Seragen may have possible indemnification obligations with respect to certain defendants. As of March 31, 2009, we have not accrued an indemnification obligation based on our assessment that our responsibility for any such obligation is not probable or estimable.

On March 4, 2008, Rockefeller filed suit in the United States District Court for the Southern District of New York, against us alleging, among other things, a breach by us of our September 30, 1992 license agreement with Rockefeller, as well as other causes of action for unjust enrichment, quantum meruit, specific performance to perform an audit and declaratory relief. In February 2009, we reached a settlement with Rockefeller whereby the parties resolved all disputes that have arisen between them, including Rockefeller's primary claim relating to the development of PROMACTA as well our counterclaims. As part of the settlement, the parties executed mutual releases and agreed to jointly seek dismissal with prejudice of all claims, demands and causes of action, whether known or unknown, arising out of or based upon the license agreement, the ongoing litigation, PROMACTA, LGD-4665, and any other compound developed by us that was subject to the license agreement. We also agreed to pay Rockefeller $5.0 million immediately upon settlement, $1.0 million on or before February 10, 2010, $1.0 million on or before February 10, 2011, and 50% of any milestone payment and 5.88% to 7.0% of certain royalties, in each case received by us pursuant to an agreement with SmithKline Beecham Corporation (now known as GlaxoSmithKline) entered into on December 29, 1994. We also agreed to pay Rockefeller 1.5% of world-wide net sales of LGD-4665 as certain payments are received by us pursuant to our agreement with SmithKline Beecham Corporation entered into on December 17, 2008. As of March 31, 2009, we have recorded a liability of $2.0 million related to the settlement.

On October 10, 2008, we received notice that a putative class action complaint was filed in the Superior Court of New Jersey, Mercer County (Equity Division) by Allen Heilman, one of Phamacopeia's stockholders, against Pharmacopeia, the members of its Board of Directors, us and two of our wholly owned subsidiaries. The complaint generally alleges that Pharmacopeia's Board of Directors' decision to enter into the proposed transaction with us on the terms contained in the proposed merger agreement constitutes a breach of fiduciary duty and gives rise to other unspecified state law claims. The complaint also alleges that we and two of our wholly owned subsidiaries aided and abetted Pharmacopeia's Board of Directors' breach of fiduciary duty. In addition, the complaint alleges that the named plaintiff will seek "equitable relief," including among other things, an order preliminarily and permanently enjoining the proposed transaction. While we believe that neither Ligand nor Pharmacopeia engaged in any wrongful acts, in an effort to minimize the cost and expense of any litigation, in December 2008, we entered into a memorandum of understanding, or MOU, with the named plaintiff providing for the settlement of the lawsuit. Subject to court approval and further definitive documentation, the MOU provides a release and settlement by the purported class of all claims against Pharmacopeia, us, and our affiliates and agents in connection with the complaint. Pursuant to the MOU we have agreed not to oppose any fee application by plaintiffs' counsel that does not exceed $0.2 million, which has been recorded as a liability at March 31, 2009.

In addition, 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 including any risk factors as to which there may have been a material change from those set forth in our Annual Report on Form 10-K for the year ended December 31, 2008. 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.

We have marked with an asterisk (*) those risk factors that reflect substantive changes from the risk factors included in our previously filed Annual Report on Form 10-K for the year ended December 31, 2008.

Risks Related To Us and Our Business.

We are substantially dependent on AVINZA and PROMACTA royalties for our revenues.

King is obligated to pay us royalties based on its sales of AVINZA and GSK is obligated to pay us royalties on its sales of PROMACTA. These royalties represent and will for some time represent substantially all of our ongoing revenue. Although we may also receive royalties and milestones from our partners in various past and future collaborations, the amount of revenue from such royalties and milestones is unknown and highly uncertain. As a result, any setback that may occur with respect to AVINZA or PROMACTA could significantly impair our operating results and/or reduce the market price of our stock. Setbacks could include problems with shipping, distribution, manufacturing, product safety, marketing, government licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products, as well as higher than expected total rebates, returns or discounts.

King and GSK's sales efforts for AVINZA and PROMACTA, respectively, could be affected by a number of factors and decisions regarding their organizations, operations, and activities as well as events both related and unrelated to AVINZA or PROMACTA, including sales force reorganizations and lower than expected sales calls and prescription volumes. AVINZA and PROMACTA could also face stiffer competition from existing or future products. The negative impact on the sales of AVINZA or PROMACTA will negatively affect our royalties, revenues and earnings.

Sales of AVINZA and PROMACTA may also be negatively impacted by higher than expected discounts (especially pharmacy benefit management/group purchasing organization rebates and Medicaid rebates, which can be substantial), returns and chargebacks and/or slower than expected market penetration. Other setbacks that AVINZA could face in the sustained-release opioid market include abuse issues and the inability to obtain sufficient quotas of morphine from the Drug Enforcement Agency to support production requirements.

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

On September 10, 2007, King reported that Actavis, a manufacturer of generic pharmaceutical products headquartered in Iceland, had filed with the FDA an Abbreviated New Drug Application, or ANDA, with a Paragraph IV Certification pertaining to AVINZA, the rights to which were acquired by King from 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 and Elan Pharma International Ltd. jointly filed suit in federal district court in New Jersey on October 18, 2007 against Actavis, Inc. and Actavis Elizabeth LLC for patent infringement under the 339 patent. The lawsuit seeks a judgment that would, among other things, prevent Actavis from commercializing its proposed morphine product until after expiration of the 339 patent.

AVINZA was licensed from Elan Corporation, or Elan, which is its sole manufacturer. Any problems with Elan's manufacturing operations or capacity could reduce sales of AVINZA, as could any licensing or other contract disputes with Elan, raw materials suppliers, or others.

Further, pursuant to the agreement with King, beginning in 2009 we will no longer be entitled to receive AVINZA royalties on a quarterly basis, but will collect royalties on an annual basis, which may adversely impact our cash flows.

Our product candidates face significant regulatory hurdles prior to marketing which could delay or prevent sales.

Before we 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, including bazedoxifene, lasofoxifene, PS433540 and PS178990. Failure to show any product's safety and effectiveness could delay or prevent regulatory approval of a product and could adversely affect 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 rate at which we complete our clinical trials depends on many factors, including, but 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. 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. These agreements also give our collaborative partners significant discretion when deciding whether or not to pursue any development program. Our existing collaborations may not continue or be successful, and we may be unable to enter into future collaborative arrangements to develop and commercialize our product candidates.

In addition, our collaborators may develop drugs, either alone or with others that compete with the types of drugs they are developing with us. This would result in increased competition for our programs. If products are approved for marketing under our collaborative programs, revenues we receive will depend on the manufacturing, marketing and sales efforts of our collaborative partners, who generally retain commercialization rights under the collaborative agreements. Generally, our current collaborative partners also have the right to terminate their collaborations under specified circumstances. If any of our collaborative partners breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully, our product development under these agreements will be delayed or terminated. Disputes or litigation may also arise with our collaborators, including disputes or litigation over ownership rights to intellectual property, know-how or technologies developed with our collaborators. Such disputes or litigation could adversely affect our rights to one or more of our product candidates, including our PS433540 and PS178990 compounds. Any such dispute or litigation could delay, interrupt or terminate the collaborative research, development and commercialization of certain potential products, create uncertainty as to ownership rights of intellectual property, or could result in litigation or arbitration. The occurrence of any of these problems could be time-consuming and expensive and could adversely affect our business.

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. 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 Pharmacopeia we distributed approximately $9.3 million in cash to Pharmacopeia stockholders. Security holders of Pharmacopeia also received contingent value rights under which we could be required to make an aggregate cash payment of $15.0 million to such security holders under certain circumstances.

We believe that our capital resources 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 existing 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 purchase of additional capital equipment;
- cash 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 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.

If, as the result of a merger, or otherwise, our collaborative partners were to 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.

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

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.

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

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

Several drug companies and research and academic institutions have developed technologies, filed patent applications or received patents for technologies that may be related to 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.

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

Other possible 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.

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

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

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

comments or opinions by securities analysts or major stockholders; future sales of our common stock by existing stockholders; regulatory developments or changes in regulatory guidance; litigation or threats of litigation; economic and other external factors or other disaster or crises; the departure of any of our officers, directors or key employees; period-to-period fluctuations in financial results; and limited daily trading volume.

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.

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. 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.

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 March 31, 2009, our accumulated deficit was $684.7 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.

The past restatement of our consolidated financial statements increased the possibility of legal or administrative proceedings. 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.*

We determined that our consolidated financial statements for the years ended December 31, 2002 and 2003, and for the first three quarters of 2004, as described in more detail in our 2004 Annual Report on Form 10-K, should be restated. As a result of the restatement, we became subject to a number of additional risks and uncertainties. While no material weaknesses were identified as of March 31, 2009, 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.

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

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

Any conflicts resulting from the patent rights of others could significantly reduce the coverage of our patents and limit our ability to obtain meaningful patent protection. We have had and will continue to have discussions with our current and potential collaborative partners regarding the scope and validity of our patents and other proprietary rights. If a collaborative partner or other party successfully establishes that our patent rights are invalid, we may not be able to continue our existing collaborations beyond their expiration. Any determination that our patent rights are invalid also could encourage our collaborative partners to seek early termination of our agreements. Such invalidation could adversely affect our ability to enter into new collaborations.

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

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

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

In connection with the sale of our AVINZA product line, we have agreed to indemnify King in certain cases for a period of 30 months after the closing of the sale of the AVINZA product line in February 2007, including any breach of certain representations, warranties or covenants contained in the asset purchase agreement. In addition, we have agreed to indemnify Eisai, the purchaser of our Oncology product line, for damages suffered by Eisai arising from any breach of our representations, warranties, covenants or obligations in the asset purchase agreement. Our obligation to indemnify Eisai extends beyond the closing of the sale of our Oncology product line in October 2006 up to, in some cases, 36 months and, in other cases, until the expiration of the applicable statute of limitations. In a few instances, our obligation to indemnify Eisai survives in perpetuity.

Under certain circumstances, the asset purchase agreement for the AVINZA product line also allows King to set off indemnification claims against the royalty payments payable to us, including AVINZA royalty payments. Under the asset purchase agreements, our exposure for any indemnification claim brought by King or Eisai is limited to $40.0 million and $30.0 million, respectively. However, in certain matters, our indemnification obligation is not subject to the foregoing limits on liability. For example, we are obligated to indemnify King, without limitation, for

all liabilities arising under certain agreements with Catalent Pharma Solutions related to the manufacture of AVINZA. Similarly, we are obligated to indemnify Eisai, without limitation, for all liabilities related to certain claims regarding promotional materials for the ONTAK and Targretin drug products. 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.

As previously disclosed, in connection with the AVINZA sale transaction, King assumed our obligation to make payments to Organon based on net sales of AVINZA (the fair value of which was $58.0 million as of March 31, 2009). As Organon did not consent to the legal assignment of the co-promote termination obligation from us to King, 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 commercial product lines also exposes us to product liability risks on products we sold prior to divesting these product lines. For example, such products may need to be recalled to address regulatory issues. A successful product liability claim or series of claims brought against us could result in payment of significant amounts of money and divert management's attention from running our business.

We believe that we carry reasonably adequate insurance for product liability claims. However, we may not be able to maintain our insurance on commercially reasonable terms, or our insurance may not provide adequate protection in the case of a product liability claim. To the extent that product liability insurance, if available, does not cover potential claims, we will be required to self-insure the risks associated with such claims.

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 is in default. We intend to pursue collection efforts, but we might not recoup some or 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 money to run our business and may be required to raise this money 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.

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 AVINZA and PROMACTA 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.

Significant returns of products we sold prior to selling our commercial businesses could harm our operating results.

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

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.

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

In December 2008, we completed our merger with Pharmacopeia. The success of the merger will depend, in part, on our ability to realize the anticipated synergies, growth opportunities and cost savings from integrating Pharmacopeia's business with our business. Our success in realizing these benefits and the timing of this realization depend upon the successful integration of the operations of Pharmacopeia. The integration of two independent companies is a complex, costly and time-consuming process. It is possible that the integration process could result in the loss of key employees, diversion of each company's management's attention, the disruption or interruption of, or the loss of momentum in, each company's ongoing business or inconsistencies in standards, controls, procedures and policies, any of which could adversely affect either company's ability to maintain relationships with licensors, collaborators, partners, suppliers and employees or our ability to achieve the anticipated benefits of the merger, or could reduce our earnings or otherwise adversely affect the business and financial results of the combined company and, as a result, adversely affect the market price of our common stock.

We expect to incur significant costs and commit significant management time integrating Pharmacopeia's business operations, technology, development programs, products and personnel with those of ours. If we do not successfully integrate the business of Pharmacopeia, the expenditure of these costs will reduce our cash position

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

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

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

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

As part of our efforts to acquire companies, business or product candidates or to enter into other significant transactions, we conduct business, legal and financial due diligence with the goal of identifying and evaluating material risks involved in the transaction. Despite our efforts, we ultimately may be unsuccessful in ascertaining or evaluating all such risks and, as a result, might not realize the intended advantages of the transaction. If we fail to

realize the expected benefits from acquisitions we may consummate in the future, whether as a result of unidentified risks, integration difficulties, regulatory setbacks and other events, our business, results of operations and financial condition could be adversely affected. If we acquire product candidates, we will also need to make certain assumptions about, among other things, development costs, the likelihood of receiving regulatory approval and the market for such product candidates. Our assumptions may prove to be incorrect, which could cause us to fail to realize the anticipated benefits of these transactions.

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

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

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

We have excess space available for sublease at our facilities and we may not be able to find qualified sublease tenants.

We have entered into long-term, non-cancellable real estate arrangements for space which, as a result of reductions in our workforce and our acquisition of Pharmacopeia, are considered to be in excess of our current requirements. We currently have a tenant who is subleasing one of our facilities and we are actively looking for additional sublease tenants to sublease up to approximately 80,000 square feet of vacant space or space that could be made available through changes in the current layout of our operations. We will continue to be responsible for all carrying costs of these facilities until such time as we can sublease these facilities or terminate the applicable leases based on the contractual terms of the lease agreements. However, the commercial real estate market conditions in the United States have resulted in a surplus of business facilities making it difficult to sublease properties. If we are unable to find additional sublease tenants we may not meet our expected estimated levels of sublease income or we may be required to terminate these leases at a substantial cost, and, accordingly, our results of operations could be materially and adversely affected.

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ITEM 6. 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.
3.1(2)	Amended and Restated Certificate of Incorporation of the Company (Filed as Exhibit 3.1).
3.2(2)	Bylaws of the Company, as amended (Filed as Exhibit 3.3).
3.3(3)	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(4)	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(5)	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated June 30, 2004 (Filed as Exhibit 3.6).
3.6(6)	Amendment of the Bylaws of the Company dated November 8, 2005 (Filed as Exhibit 3.1).
3.7(7)	Amendment of Bylaws of the Company dated December 4, 2007 (Filed as Exhibit 3.1).
4.1(8)	Specimen stock certificate for shares of Common Stock of the Company.
4.2(9)	Pledge Agreement dated November 26, 2002, between the Company and J.P. Morgan Trust Company, National Association (Filed as Exhibit 4.5).
4.3(9)	Control Agreement dated November 26, 2002, among the Company, J.P. Morgan Trust Company, National Association and JP Morgan Chase Bank (Filed as Exhibit 4.6).
4.4(10)	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).
10.318 †	Settlement Agreement and Mutual Release, by and between the Company and The Rockefeller University, dated as of February 11, 2009, filed herewith.
10.319 †	Research and License Agreement, by and between the Company and Trevena, Inc., dated as of February 5, 2009, filed herewith.
10.320	Separation Agreement by and between the Company and Zofia Dziewanowska, by and between the Company and Dr. Dziewanowska, dated as of March 27, 2009, filed herewith.
31.1	Certification by Principal Executive Officer, Pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by Principal Financial Officer, Pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification by Principal Executive Officer, Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by Principal Financial Officer, Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

† 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 Registration Statement on Form S-4 (No. 333-58823) filed on July 9, 1998.

(3) 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.

(4) 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.

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(7) 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.

(8) 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.

(9) 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-3 (No. 333-102483) filed on January 13, 2003, as amended.

(10) 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.

LIGAND PHARMACEUTICALS INCORPORATED

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: May 11, 2009

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

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Exhibit 10.318

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

SETTLEMENT AGREEMENT AND MUTUAL RELEASE

This Settlement Agreement and Mutual Release (***"Settlement Agreement"***) is entered into by and between Ligand Pharmaceuticals Incorporated (***"Ligand"***) and The Rockefeller University (***"Rockefeller***") (collectively, the ***"Parties"***).

RECITALS

A. Rockefeller and Ligand entered into a License Agreement, dated September 30, 1992 (the ***"Original Agreement"***).

B. Ligand and SmithKline Beecham Corporation (now known as GlaxoSmithKline and referred to herein as "***GSK"***) entered into a Research, Development and License Agreement, dated December 29, 1994, as amended or supplemented on March 22, 1995, December 12, 1995, July 21, 1998, February 3, 2000 and February 25, 2000 (the ***"GSK Agreement"***).

C. Rockefeller, as plaintiff, and Ligand, as defendant, have asserted claims and counterclaims against one another concerning their respective rights and obligations under the Original Agreement in an action pending in the United States District Court for the Southern District of New York, captioned *The Rockefeller University v. Ligand Pharmaceuticals, Inc.*, 08-Civ-02755 (PKC) (HP) (the "***Litigation***").

D. In accordance with the provisions of this Settlement Agreement, Ligand and Rockefeller have reached a settlement and resolution of all disputes that have arisen between them concerning the Original Agreement and the Litigation.

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

1. Financial Provisions.

   1.1 Initial Payment. Ligand will pay to Rockefeller Five Million Dollars ($5,000,000), payable by wire transfer within [***] ([***]) business days of the Effective Date of this Settlement Agreement.

   1.2 Milestone Payments. Ligand will pay to Rockefeller Two Million Dollars ($2,000,000) in [***] installments, [***] due on or before February 10, 2011. Payments under this Section 1.2 will be made pursuant to Section 1.8 of this Settlement Agreement.

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1.3 Share of Milestone Payments Received by Ligand Pursuant to the GSK Agreement. Upon receipt by Ligand of any milestone payment pursuant to Section 7.1 of the GSK Agreement, for an event occurring on and after February 11, 2009 (***"GSK Milestone Payment"***), Ligand will pay to Rockefeller fifty percent (50%) of any such GSK Milestone Payment. Payments under this Section 1.3 will be made pursuant to Section 1.8 of this Settlement Agreement.

1.4 Share of Royalty Payments Received by Ligand Pursuant to the GSK Agreement. (a) Upon receipt by Ligand of any royalty payment pursuant to Sections 7.2, 7.3, 7.4, 7.5 and/or 7.6 of the GSK Agreement, in connection with the worldwide annual Net Sales (as defined in the GSK Agreement) of Eltrombopag or any other Product or Combination Product (as defined in the GSK Agreement) (***"GSK Royalty"***), Ligand will pay to Rockefeller as follows:

1. On worldwide annual Net Sales of Eltrombopag or any other Product or Combination Product (as defined in the GSK Agreement) of up to One and One Half Billion Dollars ($1.5 billion), Ligand will pay five and eighty-eight hundreths percent (5.88%) of any such GSK Royalty received; and

2. On worldwide annual Net Sales of Eltrombopag or any other Product or Combination Product (as defined in the GSK Agreement) in excess of One and One Half Billion Dollars ($1.5 billion), Ligand will pay seven percent (7.0%) of any such GSK Royalty received.

(b) If Ligand is successful in securing a separate, freestanding agreement between GSK and Rockefeller pursuant to the terms and conditions set forth in Section 1.6, so that Rockefeller is in privity of contract with GSK as to Rockefeller's share of the GSK Milestone Payment and GSK Royalty, then the amounts payable to Rockefeller under Section 1.4(a)(1) shall be reduced to [***] percent ([***]%) and the amounts payable to Rockefeller under Section 1.4(a)(2) shall be reduced to [***] percent ([***]%). The royalty percentages set forth in this Section 1.4(b) will only be used to calculate payments owed to Rockefeller on and after the effective date of a separate, freestanding agreement between GSK and Rockefeller.

(c) Payments under this Section 1.4 will be made pursuant to Section 1.8 of this Settlement Agreement.

1.5 LGD-4665 Net Sales. Within [***] ([***]) days after receipt by Ligand of a payment to Ligand by GSK and/or a third party, Ligand will pay Rockefeller one and one-half percent (1.5%) of worldwide net sales as defined in the December 17, 2008 License Agreement between Ligand and GSK for LGD-4665 ("***LGD-4665 Agreement***"). If sales are by Ligand or one of its Affiliates, within [***] ([***]) days after the reporting of financial results to the SEC by Ligand or one of its Affiliates for each calendar quarter, Ligand will pay Rockefeller one and one-half percent (1.5%) of world-wide net sales as defined in the LGD-4665 Agreement. In the event that sales are by Ligand or one of its Affiliates and Ligand or one of

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its Affiliates does not have any reporting obligations to the SEC, payment under this Section 1.5 will be made within [***] days after the close of any calendar quarter in which world-wide net sales occur. "***Affiliate***" shall have the same meaning as set forth in the LGD-4665 Agreement. Payment will be made under this Section 1.5 pursuant to Section 1.8 of this Settlement Agreement.

1.6 Separate Agreement Between GSK and Rockefeller. (a) Ligand will take responsibility and use diligent efforts, with the participation of Rockefeller as needed, to secure a separate, freestanding agreement between GSK and Rockefeller which requires payment of Rockefeller's share of GSK Milestones Payments and GSK Royalties and GSK's royalties on LGD-4665, described in Sections 1.3, 1.4(a) and 1.5 of this Settlement Agreement directly from GSK to Rockefeller. Ligand's designation of a Rockefeller account under Section 9.2 of the GSK Agreement for payment by GSK directly to Rockefeller does not satisfy the requirements of this Section 1.6. Such separate, freestanding agreement shall include payment terms consistent with and no less favorable than the payment terms described in Sections 1.3, 1.4 and 1.5 of this Agreement.

(b) Ligand represents and warrants that the GSK Agreement, including the amendments and letters produced by Ligand to Rockefeller in February 2009 relating thereto, and the LGD-4665 Agreement produced in the Litigation are true, complete and accurate copies of those agreements, and reflect all agreements between GSK and Ligand relating to Eltrombopag or any other Product or Combination Product (as defined in the GSK Agreement), all agreements between and among Ligand and GSK (including those also involving in addition to Ligand and GSK any other party) relating to LGD-4665, and all amendments to all such agreements as of the Effective Date of this Agreement. More specifically, Ligand represents that Section 7 of the GSK Agreement reflects all of the financial provisions currently in effect as of the Effective Date of this Agreement and that such financial provisions have not been amended or changed by any other document or amendment. Ligand agrees that it will not amend, alter or otherwise change or enter into an agreement to amend any of the agreements referenced in this Section 1.6 in any way adversely affects or diminishes any payments owed to Rockefeller under Sections 1.3, 1.4 and 1.5 of this Agreement. If Ligand amends or enters into an agreement to amend any of the agreements referenced in this Section 1.6 or enters into any new agreement or transaction which in any way affects payments owed to Ligand, then Ligand guarantees that Ligand shall nonetheless continue to make the payments due to Rockefeller hereunder in the amounts that would have been due absent any such amendment or agreement. For avoidance of doubt, other than rights assigned to Rockefeller under Section 1.6(c), nothing herein limits Ligand's ability or right to enter into one or more transactions with any third party relating to Ligand's rights under the GSK Agreement and/or the LGD-4665 Agreement.

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(c) Ligand hereby assigns to Rockefeller all of its rights, title and interests in and to Rockefeller's share of the GSK Milestone Payments under Section 1.3, Rockefeller's share of the GSK Royalty under Section 1.4 and GSK's royalty on LGD-4665 provided under Section 1.5. Ligand agrees to hold any and all of these amounts received by Ligand in trust for Rockefeller, agrees to pay such amounts to Rockefeller as set out in the respective Sections 1.3, 1.4 and 1.5, and guarantees the amount and payment of such payments until such time as a separate, freestanding agreement may be entered into in accordance with Section 1.6(a).

1.7 Quarterly Royalty Reports. Within [***] ([***]) days after receiving a royalty or other report from GSK related to sales of Eltrombopag, other Products or Combination Products under the GSK Agreement, or LGD-4665, Ligand will send Rockefeller a copy of any such written report or reports, covering the reporting period, which is the calendar quarter then ended along with copies of any bank wire receipts evidencing payments from GSK to Ligand under the agreements mentioned in Section 1.6 above.

1.8 Mode of Payment. All payments made by Ligand to Rockefeller pursuant to this Settlement Agreement shall be made in U.S. Dollars by wire transfer to an account designated by Rockefeller, which account Rockefeller may change on [***] ([***]) days' prior written notice to Ligand. As to payments to Rockefeller under Sections 1.3 and 1.4, Ligand will send a notice to GSK within [***] ([***]) business days after the Effective Date of this Agreement, designating a Rockefeller account under Section 9.2 of the GSK Agreement, so that Rockefeller's share of the GSK Milestone Payments and GSK Royalties pursuant to Sections 1.3 and 1.4 will be paid by GSK directly into the designated Rockefeller account for so long as there is no separate, freestanding agreement between GSK and Rockefeller as described in Section 1.4(b).

1.9 Financial Records. Ligand shall keep accurate records, including, information provided by GSK under the agreements referenced herein and royalty and milestone payments to Rockefeller ("***Financial Records***"), in accordance with Ligand's internal accounting procedures and U.S. generally accepted accounting practices, and in sufficient detail to enable the amounts due under this Settlement Agreement to be determined and verified by Rockefeller. In no event shall these Financial Records include less than the information reasonably necessary to verify the accuracy of the quarterly royalty reports provided to Rockefeller under Section 1.7 and the calculations therein.

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1.10 Audit.

a) Ligand shall make reasonable efforts to confirm the accuracy of the milestone and royalty reports it receives from GSK in connection with sales of Eltrombopag, other Products or Combination Products under the GSK Agreement, and LGD-4665 [***]. To the extent that any underpayments by GSK are found as a result of Ligand's review, [***] Ligand shall pay Rockefeller its share of the underpayments, calculated pursuant to Sections 1.3, 1.4 and 1.5 of this Settlement Agreement.

b) Ligand shall maintain for not less than [***] ([***]) years from the date of creation, complete and accurate Financial Records and information relating to sales of Eltrombopag, other Products or Combination Products under the GSK Agreement, and LGD-4665. Upon written request by Rockefeller, not more than once in a calendar year and at Rockefeller's expense, Rockefeller shall be entitled and Ligand shall permit an independent certified accountant selected by Rockefeller and reasonably acceptable to Ligand to have access during normal business hours to those Financial Records and such other information that the auditor determines may be reasonably necessary to verify the accuracy of the quarterly royalty reports provided to Rockefeller under Section 1.7 and the calculations therein, provided that such access shall be limited to prevent the disclosure of any third party confidential information. Ligand will use diligent efforts to confirm with GSK that any of its relevant confidential information can be provided to Rockefeller and its independent certified accountant. The independent certified accountant shall disclose to Rockefeller whether the quarterly royalty reports are correct or not and specify whether the amounts paid to Rockefeller pursuant thereto were correct or, if incorrect, the amount of any discrepancy.

If the independent certified accountant's report shows any underpayment, Ligand shall pay the amount of the underpayment to Rockefeller within 30 days after Rockefeller delivers to Ligand its independent certified accountant's written report indicating the underpayment. If such underpayment exceeds [***] percent ([***]%) of the total amount owed for the calendar year then being audited, Ligand will pay for the reasonable and necessary fees and expenses of such independent certified accountant performing the audit, subject to reasonable substantiation thereof.

1.11 Interest Due. In case of any delay in payment by Ligand to Rockefeller (including any underpayment determined by an independent certified accountant's report), interest on the overdue payment shall accrue at the prime rate, as determined for each month on the last business day of that month, and assessed from the date that payment was due. The foregoing interest shall be due from Ligand without any special notice.

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2 No Additional Payments; Covenant Not to Sue.

2.1 Original Agreement Termination. Ligand and Rockefeller agree that the Original Agreement is hereby terminated as of the Effective Date. Sections 6, 7, 9, 10, and 14 of the Original Agreement shall survive termination.

2.2 No Additional Payments and Covenants Not to Sue - GSK. So long as this Settlement Agreement is in effect and Rockefeller is receiving timely and full payments hereunder, (a) Rockefeller acknowledges that no payments other than the payments described in this Settlement Agreement shall be due to Rockefeller from Ligand or from GSK for any past, present or future conduct that was subject to the Original Agreement or that would otherwise be due to Rockefeller in connection with Eltrombopag, other Products or Combination Products under the GSK Agreement, or in connection with LGD-4665 under the LGD-4665 Agreement; (b) Rockefeller covenants not to sue GSK for exercising its rights, or fulfilling its obligations, under the GSK Agreement or the LGD-4665 Agreement, in the past, present or future; and (c) Rockefeller will not grant to any third party any licenses under the Licensed Patent Rights or Technical Information as defined in the Original Agreement, except to not-for-profit institutions for research under material transfer agreements, and provided, however, that Rockefeller shall have no obligation to maintain or keep in force any patent or patent application within the definition of Licensed Patent Rights of the Original Agreement. Subject only to the Cure Period set forth in Section 2.4, the covenants under this Section 2.2, and Section 2.3 below, shall terminate immediately upon a breach of any payment obligations under this Agreement.

2.3 Covenant Not to Sue –Sublicensees of Ligand Other Than GSK. So long as this Settlement Agreement is in effect and Rockefeller is receiving timely and full payments hereunder, (a) Rockefeller covenants not to sue Ligand for any past, present or future uses of the Licensed Patent Rights or Technical Information as defined in the Original Agreement, where such uses were permitted by, or sublicensed pursuant to, the Original Agreement; and (b) Rockefeller further covenants not to sue licensees, collaborators or assignees of Ligand which are specifically identified in the Form 8K, filed by Ligand on February 9, 2009, or in any Form 10K or Form 10Q, filed by Ligand between February 10, 2008 and the Effective Date, for any past, present or future use of rights licensed from Ligand under the Original Agreement to such licensees, collaborators or assignees pursuant to a written agreement signed by all parties thereto prior to the Effective Date of this Settlement Agreement. Ligand covenants not to sue Rockefeller or challenge any of Rockefeller's know-how that was the subject of the Original Agreement and/or the Litigation.

2.4 Cure Period. In the event that Ligand does not make timely and/or full payments under Sections 2.2 or 2.3 of this Settlement Agreement, Rockefeller will provide written notice and [***] ([***]) business days to cure. If Ligand cures such defect within the notice period, such payment shall be considered timely for purposes of Sections 2.2 or 2.3, but Ligand shall be responsible for interest under Section 1.11.

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

(a) it is a corporation or entity duly organized and validly existing under the laws of the jurisdiction in which it is incorporated;

(b) it has full corporate or institutional power and authority, and has obtained all approvals, permits and consents necessary, to enter into this Agreement and to perform its obligations hereunder;

(c) this Settlement Agreement is legally binding upon it and enforceable in accordance with its terms;

(d) the execution, delivery and performance of this Settlement Agreement does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material law or regulation of any governmental or regulatory authority having jurisdiction over it; and

(e) the individual signatories to this Settlement Agreement are fully authorized to enter this Settlement Agreement on behalf of their respective institutions.

4 Publicity Regarding Settlement: News Release.

4.1 Characterization of Settlement. Ligand and Rockefeller agree that in characterizing or describing the settlement and resolution of the Litigation, including the terms and conditions of this Settlement Agreement, neither party will make any statements to third parties that such party has been successful, attained a victory or prevailed in the Litigation or make any characterization to that effect. Rockefeller and Ligand acknowledge that this Settlement Agreement is the product of a compromise, a good outcome for both parties and that neither of them has attained a victory or prevailed in the Litigation.

4.2 Press Release; SEC Filings. Ligand shall, within four (4) business days after the Effective Date of this Settlement Agreement, issue a mutually agreed upon press release in the form to be proposed by Ligand and subject to Rockefeller's prior written approval, not to be unreasonably withheld. In the event Rockefeller does not provide its written approval within one (1) business day after receipt from Ligand of the draft press release, Ligand may issue such press release in furtherance of its disclosure obligations as a publicly traded company. Ligand represents that it is obligated to file a Current Report on Form 8-K in connection with the execution of this Settlement Agreement, and Rockefeller acknowledges that representation.

5 Mutual Release of Claims. Each party acknowledges and agrees that it has made an acceptable investigation of the facts pertaining to this settlement, this Settlement Agreement and the matters pertaining thereto. In consideration of the various promises and undertakings, obligations, warranties and representations of each of the parties to this Settlement Agreement, and contingent upon each Party's timely performance of them, Rockefeller and Ligand each hereby releases and forever discharges the other, and each of their stockholders, affiliates, predecessors, successors, directors, trustees, officers, faculty, employees, lawyers, accountants and other representatives, from any and all liability whatever, including all claims, demands and causes of action, of every nature, known or unknown including, without limitation, any claims for breach of contract, declaratory relief, misrepresentation, inequitable conduct, or any other form of damage or theory of recovery whatsoever from the beginning of time until the Effective Date, arising out of, based upon or relating to (a) the Original Agreement, (b) the disputes, claims and counterclaims in the Litigation, as well as any compulsory counterclaims that could have been properly pled and tried in the Litigation, (c) Eltrombopag, LGD-4665, and any TPO or other compound developed by Ligand alone or with a third party, which compound was subject to the Original Agreement and (d) all payments "made under protest" by Ligand to Rockefeller pursuant to Section 2.4 of the Original Agreement. Rockefeller and Ligand shall bear their own attorneys' fees and costs incurred in connection with the Litigation and this Settlement Agreement.

With respect to the subjects above, each of the Parties recognizes and understands that this release applies to and covers the claims and counterclaims in the Litigation. Each of Rockefeller and Ligand (a) expressly waives any right to claim or assert hereafter that any claim, counterclaim, demand or cause of action has been omitted, through ignorance, oversight or error, from this Settlement Agreement; and (b) makes this waiver with the full knowledge of their respective rights and with specific intent to release both known and unknown claims. This release is intended to include in its effect, without limitation, all claims or counterclaims which each of Rockefeller or Ligand does not know or suspect to exist at the time of execution hereof, and this release extinguishes any such claims or counterclaims.

6 Dismissal of Litigation. Within five business days after the Effective Date of this Settlement Agreement, the parties shall jointly file a Stipulation and proposed Order of Dismissal with the United States District Court for the Southern District of New York, in the form attached hereto as Exhibit A. The parties agree that the purpose of such filing is to effect a dismissal of the Litigation, with prejudice, including, without limitation, a dismissal of all claims and counterclaims asserted in the Litigation. Each party shall bear its own costs and attorneys' fees with respect to the Litigation. Should the Court be unwilling, for whatever reason, to enter the Stipulation and proposed Order of Dismissal in the form proposed, the parties agree to work together, in good faith, to cause the Litigation to be dismissed with prejudice.

7 Confidentiality. (a) The confidentiality restrictions of the Stipulated Protective Order, filed August 8, 2008, will continue to govern all confidential information disclosed in connection with the Litigation and negotiations leading up to the Litigation, except that the obligation of confidentiality will expire after [***] ([***]) years from the Effective Date of this Settlement Agreement. (b) All confidential scientific, technical, and business information communicated by one party to the other in

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connection this Settlement Agreement, including information contained in patent applications and royalty reports, shall be kept confidential by the recipient, which shall take all reasonable steps to ensure that such confidential information is not disclosed or used for any purpose other than those contemplated by the Original Agreement or this Settlement Agreement. This confidentiality obligation does not apply when it can be established by the recipient that (i) the information was previously known to the recipient; (ii) the information is or becomes generally available to the public through no fault of the recipient, including as a result of publications and/or laying open to inspection of any patent applications that the disclosing party may file; (iii) the information is acquired in good faith in the future by the recipient from a third party who is not under an obligation to the disclosing party to keep such information confidential; (iv) the information is required by a court or other tribunal of competent jurisdiction to be disclosed by the recipient, provided that in the event that the recipient receives a demand for such disclosure, the recipient shall promptly give notice to the disclosing party to allow it to seek a protective order or other remedy from said court or tribunal; and in any event, the recipient shall disclose only that portion of the confidential information that is legally required to be disclosed and will exercise reasonable efforts to ensure that the information is accorded confidential treatment; (v) the information is required to be disclosed as otherwise required by law; or (vi) the disclosing party consents to use or disclosure by the recipient. The obligations imposed in this Section 7 will run for a period of [***] ([***]) years commencing from the date of the disclosure of the confidential information at issue. For the avoidance of doubt, notwithstanding anything to the contrary herein, nothing in this Settlement Agreement shall: (a) prevent the Parties from making the press release or SEC filings described in Section 4.2 above; or (b) obligate either Party to disclose confidential information of a third party.

8 Governing Law; Venue. This Settlement Agreement and its effect are subject to and shall be construed and enforced in accordance with the laws of the State of New York, without regard to conflict of laws rules. The venue for resolution of any disputes shall be in the United States District Court for the Southern District of New York.

9 Notices. Any notice, payments, and reports, except as otherwise set forth in this Settlement Agreement, shall be made by personal delivery or, if by mail, then by registered or certified mail, return receipt requested, with postage and fees prepaid, or by overnight mail, by one Party to the other Party at the addresses noted below.

In the case of Ligand, notice should be sent to:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attn: General Counsel

In the case of Rockefeller, notice should be sent to:

The Rockefeller University
1230 York Avenue, Box 81
New York, NY 10021
Attn: Office of the General Counsel

or to such other person or by such other means to which the Parties may from time to time have agreed.

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10 Binding Effect on Successors and Assigns; Notice of Transaction. The terms of this Settlement Agreement, including the rights and obligations herein shall inure to the benefit of and be binding upon Rockefeller and Ligand and the respective successors and assigns of each Party. In the event that Ligand enters into a transaction that affects any payments due to Ligand as to which Rockefeller has a right to a share of such payments under this Settlement Agreement, Ligand will provide written notice to Rockefeller within [***] ([***]) business days of the transaction.

11 Entire Agreement: Integration. The terms and conditions of this Settlement Agreement, including the attached Exhibit, constitute the entire agreement between Rockefeller and Ligand regarding the Litigation and supersede all prior negotiations, representations, letters of intent, agreements and understandings, either or in writing, between Rockefeller and Ligand regarding the Litigation and settlement thereof. This Settlement Agreement shall not be amended, supplemented or abrogated other than by a written instrument signed by the authorized representative of each party.

12 No Waiver. The failure of either party to enforce at any time any of the provisions of this Settlement Agreement, or any rights in respect of it, or to exercise any election provided in it, shall in no way be considered to be a waiver of such provisions, rights or elections, and shall in no way affect the validity of this Settlement Agreement.

13 Compromise And Settlement. This Settlement Agreement is entered into solely by way of compromise and settlement of the Litigation and all disputes between Ligand and Rockefeller as of the Effective Date and is not and shall not be construed as an admission of liability, responsibility or fault by either party.

14 Counterparts. This Settlement Agreement may be executed in one or more counterparts or facsimile versions by each Party and their attorneys, each of which shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

15 Effective Date. The “Effective Date” of this Settlement Agreement shall be the last date on which this Settlement Agreement has been signed by both Parties.

16 Headings. The headings used in this Settlement Agreement are inserted for reference only and shall not be deemed to be a part of the text.

17 Additional Assurances. Ligand and Rockefeller agree to execute, acknowledge and deliver such further instruments, and to do such other acts, as may be reasonably necessary in order to carry out the intent and purposes of this Settlement Agreement.

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

18 Severability of Provisions. The invalidity or unenforceability of any provision of this Settlement Agreement shall in no way affect the validity or enforceability of any other provision of this Settlement Agreement, unless the absence of such provision is a material term to this Settlement Agreement. If the provision is a material term to this Settlement Agreement, the parties agree to negotiate in good faith to reach a compromise, and if a compromise cannot be reached, the parties agree to submit the dispute for resolution by the Court in the Litigation.

19 Drafting. Each party acknowledges and affirms that the parties have cooperated in drafting and preparation of this Settlement Agreement. Hence, in any construction of this Settlement Agreement, the same shall not be construed against any party.

Dated: February 11, 2009

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ John L. Higgins
Its: Chief Executive Officer

Dated: February 11, 2009

THE ROCKEFELLER UNIVERSITY

By: /s/ Harriett S. Rabb
Its: Vice President and General Counsel

Exhibit A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

THE ROCKEFELLER UNIVERSITY, a New York not-for-profit corporation, Plaintiff, v. LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation, Defendant.	08-CV-2755 (PKC) (HP) **STIPULATION AND ORDER OF DISMISSAL**

IT IS HEREBY STIPULATED AND AGREED, by and between the Parties, The Rockefeller University ("Rockefeller") and Ligand Pharmaceuticals Incorporated ("Ligand") (collectively "the Parties") as follows:

1. The Parties have agreed to settle the above-captioned action according to the terms of a Settlement Agreement and Mutual Release, dated February 11, 2009.

2. All claims asserted in Rockefeller's Complaint filed in this action are dismissed with prejudice.

3. All affirmative defenses and counterclaims set forth in Ligand's Answer and Counterclaims and First Amended Answer and Counterclaims are dismissed with prejudice.

4. Each party shall bear its own costs and fees, including attorneys' fees.

5. This Court has reviewed the Parties' Settlement Agreement and Mutual Release and shall retain jurisdiction over this action, including, without limitation, for implementation or resolution of disputes arising out of this Stipulation and Order of Dismissal and the settlement of this action.

FOLEY & LARDNER LLP

Dated: By: _____

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Attorneys for Plaintiff

GREENBERG TRAURIG, LLP

Dated:

By: _____

Simon Miller (SM-6728)
200 Park Avenue
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-and-

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KNOBBE MARTENS, OLSON & BEAR, LLP
Joseph M. Reisman
Gregg I. Anderson
550 West C Street
Suite 1200
San Diego, CA 92101

Attorneys for Defendant

IT IS SO ORDERED.

Dated: February ___, 2009

_____

HONORABLE P. KEVIN CASTEL
UNITED STATES DISTRICT COURT JUDGE

Exhibit 10.319

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

RESEARCH AND LICENSE AGREEMENT

THIS RESEARCH AND LICENSE AGREEMENT (the "Agreement") is made and entered into as of the 5th day of February, 2009 (the "Effective Date") by and between Trevena, Inc., a Delaware corporation, having a principal address at 1018 West 8th Ave. Building 11, King of Prussia, Pennsylvania 19406 ("Company"), and Ligand Pharmaceuticals, Inc., a Delaware corporation, having its principal place of business at 10275 Science Center Drive, San Diego, California 92121 ("Ligand"). Each of Company on one hand and Ligand on the other hand, is referred to as a "Party" and collectively as the "Parties."

WHEREAS, Ligand has researched and developed binary encoded combinatorial chemistry technology to develop a means to produce combinatorial libraries and has developed assays to screen organic compounds;

WHEREAS, Company has researched and developed screening assays for the Targets (as defined below);

WHEREAS, Company and Ligand wish to collaborate for the screening of Library Compounds (as defined below) for the purpose of finding Active Compounds (as defined below);

WHEREAS, Ligand is willing to grant certain rights to Company to commercially exploit Active Compounds (as defined below), in consideration of the payment by Company of certain fees and expenses to Ligand as set forth herein.

NOW THEREFORE, in consideration of the mutual covenants and conditions hereinafter set forth in this Agreement, the Parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

The following terms when used herein shall have the following meanings:

1.1 "Active Compound" has the meaning set forth in Section 2.5.1(b).

1.2 "Active Compound Candidate" has the meaning set forth in Section 2.5.1(a).

1.3 "Affiliate" means any Person controlled by, controlling, or under common control with a Party. For the purposes of this Section 1.3 only, "control" shall refer to (a) the possession, directly or indirectly, of the power to direct the management or policies of a Person, whether through the ownership of voting securities, by contract or otherwise, or (b) the ownership, directly or indirectly, of at least fifty percent (50%) (or if less, the maximum ownership interest permitted by law) of the voting securities or other ownership interest of a Person.

1.4 "Assay" means on a Target-by-Target basis, one (1) of the (up to) two (2) assays provided by Company for screening in the Research Collaboration.

1.5 "Company Base Technology" means any and all technical data or information, whether tangible or intangible, including without limitation Company's Know-How and Patent Rights, which (i) is necessary to conduct the Research Collaboration, and (ii) Company owns or Controls as of the Effective Date.

1.6 "Confidential Information" as to each Party, means such Party's confidential information, Patent Rights and Know-How, and all the data and materials of that Party relating to the Research Collaboration and Active Compounds, except that the identity and structure of the Active Compounds, the data and information related to Active Compounds provided pursuant to Section 2.5.1, and the reports provided pursuant to Section 2.5.2 shall be considered the Confidential Information of Company, and includes, without limitation, all research, technical, clinical development, manufacturing, marketing, financial, personnel, and other business information and plans of such Party, which if disclosed in written, graphic or electronic form, is marked or otherwise designated as "confidential" or "proprietary" and, if disclosed orally, is identified as confidential at the time of disclosure.

1.7 "Controls" or "Controlled" means possession of the ability to grant licenses or sublicenses without violating the terms of any agreement or other arrangement with, or the rights of, any Third Party.

1.8 "Developed Technology" means any and all technical data or information, whether tangible or intangible, including without limitation the Parties' Know-How and Patent Rights, which (i) is necessary to develop, make or use Active Compounds, and (ii) was conceived or reduced to practice during the Research Term, solely by Company or by a Third Party on its behalf, solely by Ligand or by a Third Party on its behalf, or jointly by or on behalf of Company and Ligand. Developed Technology shall not include Ligand Base Technology, Company Base Technology, or Excluded Technology. Developed Technology shall include the Active Compounds themselves and any and all technical data or information, whether tangible or intangible, including without limitation the Parties' Know-How and Patent Rights, which covers such Active Compounds.

1.9 "Excluded Technology" means any and all technical data or information, whether tangible or intangible, including without limitation Know-How and Patent Rights, owned or Controlled by Ligand or its Affiliates relating to the creation, synthesis or use of encoded combinatorial chemical compound libraries, tag or marker compound engineering, computer software or high throughput screening assays. The Excluded Technology shall not include any Patent Rights claiming the composition of matter, manufacture, or use of any Active Compound.

1.10 "Exclusivity Period" has the meaning set forth in Section 4.1.1.

1.11 "FTE" means a full-time equivalent Ligand scientist.

1.12 "Inactive Compound" has the meaning set forth in Section 7.2.3(a)(ii).

1.13 "Joint Steering Committee" or "JSC" has the meaning set forth in Section 3.1.

1.14 "Know-How" means all inventions, technology, or other information discovered or developed by or for a Party as of the Effective Date, or during the Research Term, whether or not patentable, constituting materials, methods, processes, techniques and data, necessary for the development, manufacture or use of an Active Compound.

1.15 "Library" means any chemical compound library prepared by or on behalf of Ligand and screened in the Research Collaboration.

1.16 "Library Compound" means any compound contained in a Library.

1.17 "Ligand Base Technology" means any and all technical data or information, whether tangible or intangible, including without limitation Ligand's Know-How and Patent Rights, which (i) is necessary to conduct the Research Collaboration, or to develop, make or use Active Compounds, and (ii) Ligand owns or Controls as of the Effective Date. Ligand Base Technology shall not include Excluded Technology.

1.18 "Other Technology" means any and all technical data or information, whether tangible or intangible, including without limitation the Parties' Know-How and Patent Rights, which (i) is not Developed Technology, and (ii) was conceived or reduced to practice during the Research Term, solely by Company or by a Third Party on its behalf, solely by Ligand or by a Third Party on its behalf, or jointly by or on behalf of Company and Ligand.

1.19 "Patent Rights" means any and all patents and patent applications (which for the purpose of this Agreement shall be deemed to include certificates of invention and applications for certificates of invention) which as of the Effective Date or during the term of this Agreement are owned or Controlled by Ligand or Company, and the divisions, continuations, continuations-in-part, patents of addition, reissues, renewals, extensions, registrations, confirmations, re-examinations, any provisional applications, supplementary protection certificates or the like of any such patents and patent applications and foreign equivalents thereof.

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 "Primary Screen" means, for each Target, the initial multiple compound per well screen to be performed by Ligand pursuant to Section 2.5.1(a), in the Assay(s) designated by Company, of a minimum of [***] ([***]) Library Compounds against such Target.

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1.22 "Proposed Target" has the meaning set forth in Section 2.2.

1.23 "Research Collaboration" means the research activities undertaken by the Parties under this Agreement during the Research Term.

1.24 "Research Term" means the two-year period commencing on January 30, 2009 and ending on the later of January 30, 2011 or the completion of screening of all Targets selected by July 30, 2010. The Research Term may be extended by the written agreement of the Parties.

1.25 "Secondary Screen" means, with respect to each Target for which Company has paid the applicable fee pursuant to Section 6.1, the screen to be performed by Ligand pursuant to Section 2.5.1(a) of active sub-libraries identified based on the Primary Screen, [***]. The screen performed as the Secondary Screen shall be against the same Target that was screened in the corresponding Primary Screen. If the Primary Screen was for agonists of a given Target, then the Secondary Screen shall also be for agonists of the same Target. If the Primary Screen was for antagonists of a given Target, then the Secondary Screen shall also be for antagonists of the same Target.

1.26 "Target" means a molecular and/or biological target, all species thereof, designated by the Parties pursuant to Section 2.2, against which target Ligand will screen Library Compounds to identify potential antagonists or agonists of such target, as determined by Company. In any given screen performed by Ligand under this Agreement, Ligand shall only screen Library Compounds for agonists or antagonists of the Target in question and shall not screen Library Compounds for both agonists and antagonists of the Target. In the event that Ligand screens Library Compounds for both agonists and antagonists of a given Target, then such activity shall constitute two screens for the purposes of this Agreement.

1.27 "Target Information" means, on a Target-by-Target basis, all information relating to the identity of the Target, the protocol of the Assays, any reference standards to be run at Company or transferred to Ligand as the case may be, and any other enabling information relevant to the conduct of the activities of the Parties hereunder with respect to such Target.

1.28 "Third Party" means an entity other than Company or its Affiliates, or Ligand or its Affiliates.

1.29 "XC_{50}" means the half maximal effective or inhibitory concentration of a compound.

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ARTICLE 2
RESEARCH

2.1 Goals of Research Collaboration.

2.1.1 General. Each Party shall (i) use commercially reasonable efforts to diligently perform its activities pursuant to the Research Collaboration, including, without limitation, by using personnel with sufficient skills and experience together with sufficient equipment and facilities, to carry out such Party's obligations under the Research Collaboration and to accomplish the objectives of the Research Collaboration; and (ii) conduct the Research Collaboration in good scientific manner, and in compliance in all material respects with all requirements of applicable laws, rules and regulations, and all other requirements of good laboratory practices to attempt to achieve its objectives efficiently and expeditiously.

2.1.2 Activities of Ligand. Subject to the provision of a sufficient number of Proposed Targets pursuant to Section 2.1.3 and selection of a sufficient number of Targets pursuant to Section 2.2, in consideration for the funding provided by Company pursuant to Section 6.1, Ligand shall utilize the appropriate resources to complete screens of twelve (12) Targets per year, in accordance with Section 2.5.1, during the Research Term.

2.1.3 Activities of Company. From the Effective Date through the end of the Research Term, Company shall identify and make available to Ligand a sufficient number of molecular and/or biological targets for Ligand's evaluation. Company shall begin making such targets available by making available to Ligand no fewer than three (3) and no more than six (6) targets on or about the Effective Date. As of the beginning of the Research Term, Company shall continue making available to Ligand at least twelve (12) targets per calendar year during the Research Term, at the rate of no fewer than three (3) targets per calendar quarter. With each such target, Company shall also provide to Ligand all pertinent Target Information essential to run the Assays. Company shall make available a sufficient number of Targets and a sufficient amount of Target Information to allow Ligand to screen a total of twenty-four (24) Targets during the Research Term.

2.2 Selection of Targets. As provided in Section 2.1.3, in the course of the Research Collaboration, Company shall make available to Ligand a sufficient number of targets, from which the Parties shall select a subset, for Ligand to be able to screen an average of twelve (12) Targets per calendar year during the Research Term. At any one time, Company shall make available such targets in multiples for consideration. Each target made available to Ligand shall be referred to as a "Proposed Target." Ligand shall promptly inform Company if it is prevented from screening a Proposed Target pursuant to Third Party obligations or if it has previously screened against a Proposed Target and, if so, whether such previous screen identified compounds active against such Proposed Target. At Company's sole discretion, Company may remove from consideration as a Target any Proposed Target against which Ligand has previously screened; provided, however, that Company shall be solely responsible, and Ligand shall have no

liability for, Company's decision to include or remove from consideration any Proposed Target against liability for, Company's decision to include or remove from consideration any Proposed Target against which Ligand has previously screened. For each Proposed Target, Company shall specify the Assays and the desired agonist or antagonist screening mode and shall make available to Ligand the Target Information and such other information as Ligand may reasonably request. For each Proposed Target, Ligand shall review and, if need be, discuss with Company the Target Information. A Proposed Target that is not removed from consideration by Company as provided above in this Section 2.2 and that is not encumbered by Third Party obligations will be accepted and designated a 'Target' for the purposes of this Agreement.

2.3 Assay Development. The Parties agree that each Assay is non-radioactive and is suitable for 1536-well format, and that such Assay and any necessary reagents that are not generally commercially available will be provided to Ligand at the expense of Company. It is understood and agreed that each Assay must be fully developed and validated by Company or a Third Party and must be approved for screening by Ligand. Such screening approval shall be done prior to payment, based on technical information, and shall not be unreasonably withheld. Ligand shall not be expected to do any further development with respect to any Assay, except as may be explicitly agreed by the Company. Insofar as an Assay requires additional development by Ligand or the use of any key reagents that have not been supplied by Company, Ligand shall conduct such additional development subject to the payment of additional fees pursuant to Section 6.2 and shall acquire such additional reagents at Company's expense as may be agreed upon by the Parties.

2.4 Screening. During the Research Term, Ligand will conduct a Primary Screen of a minimum of [***] ([***]) Library Compounds against each Target, a Secondary Screen of active sub-libraries, if any, identified in the Primary Screen, and the additional screening activities described in Section 2.5.1. Subject to the need for any additional Assay development pursuant to Sections 2.3 and 6.2, Ligand shall begin screening with respect to a Target promptly after, but in no event more than [***] ([***]) days after, receipt from Company of the applicable screening fee for such Target pursuant to Section 6.1. Ligand shall complete the screening and deliver a final report to the Company pursuant to Section 2.5.2 no later than [***] ([***]) months from the receipt of payment from Company pursuant to Section 6.1.

2.5 Identification of Active Compounds.

2.5.1 Screening of Library Compounds by Ligand.

(a) For each Target, Company shall have three (3) options with respect to screening services for agonists or antagonists (but not both) to be provided by Ligand hereunder: Standard Assay, Mid-tier Assay and Top-tier Assay, as set forth in Section 6.1. Company shall pay Ligand fees associated with each such option as set forth in Section 6.1. For each Target, Ligand shall conduct a Primary Screen and a Secondary Screen of active sub-libraries identified in the Primary Screen, in each case using the Assay selected by Company or, if Company has paid the applicable fee for a Mid-tier Assay

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or Top-tier Assay pursuant to Section 6.1, for both Assays in the Secondary Screen. Following the Primary Screen and Secondary Screen, Ligand shall provide the Company with all data and chemical structures on all Active Compound Candidates, and shall inform the Company whether Ligand has previously granted to any Third Party a license to any of such Active Compound Candidates. If, following and based on Company's analysis of such data and chemical structures on Active Compound Candidates, Company provides Ligand with structural information for proposed compounds and requests whether Ligand screened any such proposed compounds in the Primary Screen, Ligand shall respond. "Active Compound Candidates" are (a) for Target agonists or activators, Library Compounds that demonstrate more than 50% of control activity when tested in Ligand's screening format (approximately 3-5 micromolar for most test substances), and (b) for Target antagonists or blockers, Library Compounds that block or inhibit more than 50% of positive control activity when tested in Ligand's screening format (approximately 3-5 micromolar for most test substances). In the event that more than [***] ([***]) Library Compounds meet the applicable criteria set forth in the preceding sentence, the Active Compound Candidates shall be limited to [***] ([***]) Active Compound Candidates, chosen by Company, per Target (such chosen Active Compound Candidates referred to as the "Licensed Active Compound Candidates"). In the event that Company pays Ligand for two complete screens to screen a given Target for both agonists and antagonists, then the limit shall be [***] ([***]) agonists and [***] ([***]) antagonists for a total of [***] ([***]) Licensed Active Compound Candidates, per Target.

(b) The Company in its sole discretion, with input from Ligand, shall determine those Licensed Active Compound Candidates, if any, which it deems to have appropriate activity against the Target to merit resynthesis. Ligand shall provide reasonable advice to Company on which Licensed Active Compound Candidates it believes most likely to satisfy the criteria for Active Compounds. In addition, Ligand shall have determined, as provided in Section 2.5.1(a), whether it has granted a license to a Third Party to any of the Active Compound Candidates that Company selects for resynthesis and, if so, it shall not resynthesize any such Active Compound Candidate, and such pre-licensed Licensed Active Compound Candidates shall not be included in the license granted to Company under Section 5.4. For each Target, Ligand shall resynthesize, up to the number of Active Compound Candidates for which Company has paid pursuant to Section 6.1, such Active Compound Candidates as Company has determined, and shall determine with re-synthesized Active Compound Candidates the XC_{50}'s by testing dose-response relationships in the applicable Assay(s). If there are more Licensed Active Compound Candidates meriting resynthesis than the number already paid for by Company (but up to the limit stated above of [***] ([***]) compounds per Target per agonist or antagonist mode), Ligand will notify Company. If Company is in agreement, and subject to the payment by Company of an additional fee of [***][***] dollars ($[***]) per Licensed Active Compound Candidate, Ligand shall resynthesize the additional Licensed Active Compound Candidates agreed to by

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Company and shall conduct the applicable Assay(s) to confirm the activity of such Licensed Active Compound Candidates. Licensed Active Compound Candidates that upon resynthesis demonstrate an XC_{50} of 1 micromolar or less in applicable secondary assay(s), and Licensed Active Compound Candidates that were not resynthesized but that would be likely, based on similar activity to resynthesized Licensed Active Compound Candidates, to demonstrate an XC_{50} of 1 micromolar or less in applicable secondary assay(s), will be deemed "Active Compounds".

2.5.2 Reporting. Upon completion of all screening activities, including resynthesis and XC_{50} testing, pursuant to Section 2.5.1, Ligand shall issue a final report to Company, which shall set forth in reasonable detail the results of Ligand's screening activities, the identity of all Active Compounds, and related structural and synthesis information, chemical structure and biological activity data having previously been provided for Active Compound Candidates pursuant to the terms of 2.5.1(a). In the event that no Active Compounds have been identified, Ligand's final report shall state so, and Ligand shall notify Company that no Active Compounds have been identified. This report will be provided within [***] ([***]) days of completion of resynthesis and XC_{50} testing of compounds.

ARTICLE 3
JOINT STEERING COMMITTEE

3.1 Joint Steering Committee. Company and Ligand agree to establish a Joint Steering Committee (the "JSC") to oversee and review the Research Collaboration. The responsibilities of the JSC shall include monitoring and reporting the progress of the Research Collaboration to the Parties. The JSC shall have an advisory role only and shall not have any decision-making authority. The JSC shall not have any authority or control over the development or commercialization of Active Compounds following Ligand's delivery of Active Compound structure and synthesis information to Company pursuant to Section 2.5.2, which development and commercialization Company shall conduct, or have conducted, in its sole discretion.

3.2 Membership. The JSC shall include two (2) representatives of each Party, each Party's representatives selected by that Party. Ligand and Company may each replace its JSC representatives at any time, upon written notice to the other Party. From time to time, the JSC may establish subcommittees, to oversee particular projects or activities, and such subcommittees will be constituted as the JSC determines, in its sole discretion.

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3.3 Meetings and Minutes. During the Research Term, the JSC shall meet at least two time per year at such times and locations as the Parties shall mutually agree. With the mutual agreement of the Parties, additional representatives of Ligand or Company may attend JSC meetings as observers. Each Party shall be responsible for all of its own expenses associated with the attendance of its representatives at such meetings. The first meeting of the JSC shall occur within thirty (30) days after the Effective Date. The JSC shall prepare written minutes of each JSC meeting and a written record of all matters discussed by the JSC, whether at a JSC meeting or otherwise.

ARTICLE 4
LIBRARIES; EXCLUSIVITY

4.1 Exclusivity

4.1.1 Target. For each Target, during the Exclusivity Period with respect to such Target, Ligand shall not knowingly screen any Library or any other compound library, on its own behalf or on behalf of any Third Party, against such Target in the same mode (agonist or antagonist) that Ligand screened for Company under this Agreement. In addition, Ligand shall not, either alone or with or for any Third Party, and shall not grant a Third Party any rights to, research, develop or commercialize any Active Compound Candidate where the intended use of such Active Compound Candidate involves agonist or antagonist activity, as the case may be, against such Target, as specified by Company pursuant to Section 2.2 for the screening performed against such Target under this Agreement. The "Exclusivity Period" with respect to a particular Target shall mean that period commencing on the date that such Target is designated pursuant to Section 2.2 and ending on the earlier of (i) the time that Ligand notifies Company pursuant to Section 2.5.2 that no Active Compound has been identified against the Target, or (ii) two years from the date that such Target was designated pursuant to Section 2.2 as a "Target."

4.1.2 Active Compound. For each Licensed Active Compound, Ligand shall not knowingly work on or develop such compound on its own behalf or on behalf of any Third Party. In addition, Ligand shall not, either alone or with or for any Third Party, and shall not grant a Third Party any rights to, research, develop or commercialize any Licensed Active Compound.

4.1.3 Libraries. Company shall have no exclusivity with respect to any Library or Library Compound therein, except with respect to the exclusive licenses expressly set forth in this Agreement with respect to Licensed Active Compounds. It is understood that Libraries are regularly used by Ligand and may be, or may have been, provided to Third Parties for screening of targets. Subject to the provisions of Section 4.1.1, Ligand shall have the right to screen Libraries against targets (other than Targets during the applicable Exclusivity Period) during the Research Term and thereafter, on its own behalf or on behalf of Third Parties; provided, however, that Ligand shall apply the appropriate safeguards so that no Library Compound, once designated as a Licensed Active Compound pursuant to this Agreement, shall be offered or licensed by Ligand to any Third Party. It is understood that Ligand shall retain all rights to Libraries screened in the Research Collaboration, except as expressly set forth herein.

4.2 Physical Ownership. Ligand shall retain physical control of the tangible property embodied in all Libraries and Library Compounds.

ARTICLE 5
OWNERSHIP; GRANT OF LICENSE

5.1 Company Base Technology. Company shall own all rights, title and interest in and to Company Base Technology.

5.2 Developed Technology and Other Technology. Subject to any licenses expressly granted herein, Company shall own all rights, title and interest in and to Company solely invented Developed Technology and Other Technology, and an undivided one-half interest in jointly invented Developed Technology and Other Technology. Subject to any licenses expressly granted herein, Ligand shall own all rights, title and interest in and to Ligand solely invented Developed Technology and Other Technology and an undivided one-half interest in jointly invented Developed Technology and Other Technology. Subject to the terms and conditions of this Agreement, including Section 4.1 and any licenses expressly granted herein, each Party shall have full rights to license, assign and exploit the jointly owned Developed Technology and Other Technology, and any Patent Rights therein or arising therefrom, anywhere in the world, without any requirement of gaining the consent of, or accounting to, the other Party, and to the extent any jurisdiction requires the consent of the co-owner of any jointly owned Developed Technology or Other Technology or Patent Rights appurtenant thereto in order to effect any license under such Party's interest therein, each Party hereby consents to such license, subject to the terms and conditions of this Agreement.

5.3 Ligand Base Technology. Ligand shall own all rights, title and interest in and to Ligand Base Technology.

5.4 License to Licensed Active Compounds. Subject to the terms and conditions of this Agreement, Ligand grants Company, and Company accepts, an exclusive, royalty-free, perpetual, worldwide license, with the right to sublicense through multiple tiers, under the Ligand Base Technology and Ligand's interest in Developed Technology, to make, have made, use, import, sell, have sold and offer for sale Licensed Active Compounds in order to develop, make, have made, use, import, offer for sale, have sold and sell pharmaceutical products incorporating or based upon such compounds.

5.5 Non-Exclusive Research License. Subject to the terms and conditions of this Agreement, and solely for the purpose of conducting the Research Collaboration, during the Research Term, Company grants Ligand, and Ligand accepts, a nonexclusive, royalty-free license, in the United States, without the right to sublicense, under all of Company's rights in the Developed Technology and the Company Base Technology, solely for the purpose of complying with its obligations under the Research Collaboration. For clarity, this nonexclusive license to Ligand terminates upon the expiration or termination of the Research Term.

5.6 Third Party Rights.

5.6.1 Ligand Third Party Activities. It is understood that Ligand is in the business of providing services to screen compound libraries for Third Parties against targets, and that Ligand will grant such Third Parties rights after the Effective Date to acquire licenses to compounds contained in, or derived from such libraries, which such rights are similar in nature to Company's rights under this Article 5 with respect to Active Compounds. It is understood that a Third Party may acquire rights from Ligand with respect to one or more compounds, including any Active Compound Candidate, of which Ligand is a sole or joint owner, which compounds were identified independently of Ligand's activities and knowledge gained under the Research Collaboration; provided, however, that once Ligand has delivered the final report to Company pursuant to Section 2.5.2, Ligand shall not thereafter grant any Third Party any rights with respect to any Licensed Active Compound. Accordingly, Ligand's grant of rights under Section 5.4 shall not include any compound as to which (i) such Third Party (either alone or jointly with Ligand) has filed a patent application with respect to such a compound prior to the filing by Company (either alone or jointly with Ligand) of a patent application with respect to such a compound, or (ii) Ligand has previously granted such Third Party a license or other rights with respect to such a compound, and Ligand shall notify Company if Ligand has reason to believe that clause (i) or (ii) may apply to any Active Compound.

5.6.2 No Liability. It is understood and agreed that, even if Ligand complies with its obligations under this Agreement, compounds provided to Third Parties in the course of Ligand's other business activities may result in Third Party patent rights, including patent rights owned by such Third Parties, or owned jointly by Ligand and such Third Parties, which could conflict with Patent Rights owned by Company, or jointly owned by Company and Ligand hereunder. Ligand shall use its reasonable efforts to avoid such conflict. Notwithstanding the foregoing, it is understood that, unless Company is damaged as a proximate result of a material breach by Ligand of Section 4.1.1, or of any of the representations and warranties in Article 9, then Ligand shall have no liability under this Agreement with respect to any such conflict.

5.7 Licenses from Third Parties. Company shall be responsible for (a) procuring license rights from Third Parties which are necessary or appropriate for the use of all Assays, Targets and associated materials provided by Company for use in the Research Collaboration, and (b) the payment of any amount due Third Parties under such licenses.

ARTICLE 6
FINANCIAL TERMS

6.1 Screening Fees. Depending on the number of Assays and the number of compounds to be resynthesized, Company shall pay to Ligand the applicable non-refundable amount per Target screened by Ligand in agonist or antagonist mode pursuant to the Research Collaboration, as follows:

(1) Standard Assay (Primary Screen and Secondary Screen in a single Assay format and up to [***] resynthesized compounds): $[***]

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(2) Mid-tier Assay (Primary Screen, Secondary Screen [***], and up to [***] resynthesized compounds): $[***]

(3) Top-tier Assay (Primary Screen, Secondary Screen [***], and up to [***] resynthesized compounds): $[***].

Each such payment shall be made in advance of Ligand's commencement of screening for agonists or antagonists against such Target, and shall be made within [***] ([***]) days after the designation of each Target and mode pursuant to Section 2.2. If Company selects and pays for option 1 or 2 above, it may not later pay the difference and upgrade to option 2 or 3, respectively, later. For example, if Company initially pays for a Standard Assay, it may not later simply pay an additional $[***] and receive a Mid-tier Assay. Notwithstanding, Company may increase the number of Active Compound Candidates to be resynthesized pursuant to Section 2.5.1(b).

6.2 Assay Development. In the event that, at Company's request, Ligand shall conduct any additional assay development as provided in Section 2.3, Company shall pay to Ligand an amount equal to the number of FTE's to be utilized for such development multiplied by Ligand's FTE Rate for the agreed period of such development program. For purposes of this Section 6.2, Ligand's "FTE Rate" shall be [***] dollars ($[***]) per FTE per month. Payments under this Section shall be made within [***] ([***]) days of receipt of an invoice.

ARTICLE 7
PATENTS

7.1 Disclosure by Employees, Agents or Independent Contractors. Company and Ligand agree that as to any employees, agents, or independent contractors of Company and Ligand presently in their employ or who are hired or retained by Company or Ligand to perform, manage the performance of, or participate in the Research Collaboration, each Party will ensure that, prior to conducting any such activities, its employees, agents, or independent contractors will be under written obligation to disclose and assign to such Party all rights, title and interest in and to inventions, developments, or improvements (whether patentable or not), conceived or reduced to practice during the performance of the Research Collaboration. Each Party shall notify the other Party promptly of any sole or joint inventions within the Developed Technology and joint inventions within the Other Technology.

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7.2 Patent Prosecution and Related Activities.

7.2.1 Ligand Base Technology. Ligand shall be responsible, at its sole discretion and expense, for preparing, filing, prosecuting and maintaining in such countries where it deems appropriate, by itself or with Third Parties, Patent Rights within the Ligand Base Technology and conducting any interference, re-examination, reissue and opposition proceedings relating to such Patent Rights.

7.2.2 Company Base Technology. Company shall be responsible, at its sole discretion and expense, for preparing, filing, prosecuting and maintaining in such countries where it deems appropriate, by itself or with Third Parties, Patent Rights within the Company Base Technology and conducting any interference, re-examination, reissue and opposition proceedings relating to such Patent Rights.

7.2.3 Developed Technology and Other Technology.

(a) Prosecution by Company.

(i) Following designation of an Active Compound, Company shall be responsible at its sole discretion and expense for the preparation, filing, prosecution and maintenance in such countries where it deems appropriate, of the Patent Rights within the Developed Technology claiming such Active Compound, whether invented or developed solely by Company, solely by Ligand or jointly by Company and Ligand, and for conducting any interferences, re-examinations, reissues and oppositions relating to such Patent Rights.

(ii) Company may claim any and all compounds with activity against a Target; provided, however, that in the event that any Patent Right, owned in whole or in part by Company, claims one or more Library Compounds that (i) were screened by Ligand against a Target in the Research Collaboration and (ii) were not found in the course of the Research Collaboration to satisfy the activity criteria determined by the parties in Section 2.5.1(a) with respect to any Target (each such Library Compound referred to as an "Inactive Compound"), Ligand shall have the right to require that Company not claim any such Inactive Compound and shall provide notice to Company to that effect within [***] ([***]) days after receipt of a copy of any patent application filed, or intended for filing, by Company pursuant to this Section 7.2.3(a). Company shall have a period of [***] ([***]) days from the receipt of such notice during which to provide Ligand with evidence reasonably demonstrating that such Library Compound was in fact synthesized and tested by Company independent of the Research Collaboration, and has in fact the utility which is to be disclosed or claimed. In the event that Company fails to provide such evidence, and Company claims an Inactive Compound, then Company agrees to grant, and hereby grants to Ligand, an exclusive (even as to Company), worldwide, royalty-free right and license, with the right to grant and authorize sublicenses, under Company's interest in the Patent Rights claiming such Inactive Compound, to make, have made, use, import, offer for sale, have sold and sell products containing such Inactive Compound, for the life of the applicable Patent Rights.

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(iii) Company shall be responsible, at its sole discretion and expense, for preparing, filing, prosecuting and maintaining in such countries where it deems appropriate, Patent Rights within the Developed Technology and Other Technology claiming inventions solely invented by Company and not claiming any Active Compound, and conducting any interference, re-examination, reissue and opposition proceedings relating to such Patent Rights.

(b) Prosecution by Ligand. Except as otherwise provided in Section 7.2.3(a) above, Ligand shall be responsible, at its sole discretion and expense, for preparing, filing, prosecuting and maintaining in such countries where it deems appropriate, Patent Rights within the Developed Technology and Other Technology claiming inventions solely invented by Ligand and not claiming any Active Compound, and conducting any interference, re-examination, reissue and opposition proceedings relating to such Patent Rights.

(c) Cooperation; Request to Responsible Party.

(i) Ligand shall be responsible for preparing, filing, prosecuting and maintaining Patent Rights within the Developed Technology and Other Technology claiming inventions invented jointly by or on behalf of Ligand and Company and not claiming any Active Compound.

(ii) Company shall keep Ligand fully informed as to the status of patent matters described in Section 7.2.3(a)(i), and Ligand shall keep Company fully informed as to the status of patent matters described in Section 7.2.3(c)(i), including, without limitation, by providing the other Party the opportunity to fully review and comment on any substantive documents which will be filed in any patent office as far in advance of a filing date as reasonable, and providing copies of any substantive documents that the prosecuting Party receives from such patent offices promptly after its receipt by such Party. The documents shall include, without limitation, and where applicable, notice of all interference, reissue, re-examination, opposition proceedings or requests for patent term extensions. Each Party shall reasonably cooperate with and assist the other Party at its own expense in connection with such activities, at the prosecuting Party's request. Each Party may request the prosecuting Party to file for such Patent Rights within the Developed Technology for which the prosecuting Party has responsibility as set forth in Sections 7.2.3(a)(i) or 7.2.3(c)(i).

7.2.4 Election Not to Prosecute. Upon [***] ([***]) days written notice to the other Party, the responsible Party may elect to discontinue the prosecution of any Patent Rights filed pursuant to Sections 7.2.3(a), 7.2.3(b)or 7.2.3(c) or not to file or conduct any further activities with respect to such Patent Rights. In the event the responsible Party declines to file or, having filed, fails to further prosecute or maintain any Patent Rights filed pursuant to this Agreement that relate to the Developed Technology or to jointly-owned Other Technology, or to conduct any interference, re-examination, reissue or opposition proceedings with respect thereto, the other Party shall have the right, at its sole expense, to prepare, file, prosecute and maintain such Patent Rights in such countries where it deems appropriate, and conduct any interference, re-examination, reissue or opposition proceedings. The other Party agrees to cooperate in any manner reasonably requested in connection with any such actions by such Party, at the expense of the requesting Party, and shall assign all right, title and interest in and to such Patent Rights to the Party continuing such activities.

7.3 Permitted Disclosures. Following a written notice from a Party hereto, the other Party shall in good faith grant the requesting Party permission to disclose in the specification of a Patent Right within the Developed Technology filed by the requesting Party pursuant to this Agreement, any Ligand Base Technology, Company Base Technology, Developed Technology, or Other Technology as applicable, necessary to support and enable claims in such Patent Rights.

7.4 Third Party Infringement.

7.4.1 Developed Technology. Company shall have the initial right, at its sole expense, but not the obligation, to initiate and conduct legal proceedings to enforce any Patent Right prosecuted by Company pursuant to Section 7.2.3(a), against infringement or misappropriation by Third Parties or to defend against any declaratory judgment action relating thereto.

7.4.2 Failure to Enforce. If within [***] ([***]) days following receipt of written notice of an infringement or misappropriation of a Patent Right within the Developed Technology which Company has the right to enforce pursuant to Section 7.4.1 (or a written notice of a declaratory judgment action alleging invalidity or unenforceability of such a Patent Right within the Developed Technology), Company fails to take action to stop such alleged infringement or misappropriation or defend such a declaratory judgment action, Ligand may, at its sole expense, take such legal action as it deems appropriate, in its own name, to stop such alleged infringement or misappropriation or defend against such a declaratory judgment action. Each Party agrees to render such reasonable assistance as the other Party may request.

7.4.3 Division of Recoveries.

(a) Any recovery received in connection with a suit brought by Company or Ligand pursuant to Section 7.4.1 or 7.4.2 shall be retained by the Party initiating such suit.

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(b) Any recovery received in connection with a suit brought by Company or Ligand solely pursuant to Section 7.4.4 shall be retained by the Party initiating such suit.

7.4.4 Base Technology. In the event that a Party learns that any Patent Right within the Ligand Base Technology or Company Base Technology is infringed or misappropriated by a Third Party, or is subject to a declaratory judgment action arising from such infringement or misappropriation, such Party shall promptly notify the other Party. Ligand shall have the right, at its sole expense, to initiate and conduct legal proceedings to enforce the Patent Rights within the Ligand Base Technology against any infringement or misappropriation or defend against any declaratory judgment action relating thereto, at its sole expense. Company shall have the right, at its sole expense, to initiate and conduct legal proceedings to enforce the Patent Rights within the Company Base Technology against any infringement or misappropriation or defend against any declaratory judgment action relating thereto.

7.4.5 No Settlement Without Consent. Neither Party shall enter into any settlement of any claim, suit or proceeding under Sections 7.4.1, 7.4.2 or 7.4.4 above which admits or concedes that any aspect of the Developed Technology, the other Party's Base Technology or the Excluded Technology is invalid or unenforceable without the prior written consent of the other Party.

7.4.6 Cooperation. Each Party shall keep the other Party reasonably informed of the progress of any claim, suit or proceeding subject to this Section 7.4 and shall cooperate reasonably with the other Party in connection with such activities at the request and expense of the Party involved in such claim, suit or proceeding, including, if required by applicable law, joining such proceeding as a party plaintiff.

7.5 Infringement Claims by Third Parties. If the manufacture, sale or use of any product containing an Active Compound results in any claim, suit or proceeding alleging patent infringement against Company, its Affiliates or sublicensees, Company shall promptly notify Ligand in writing, setting forth the facts of such claim in reasonable detail. Company shall have the exclusive right to defend and control the defense of any such claim, suit or proceeding, at its own expense, using counsel of its own choice; provided, however, it shall not enter into any agreement or settlement which admits or concedes that any aspect of the Developed Technology, the Ligand Base Technology or the Excluded Technology is invalid, unenforceable or not infringed, without the prior written consent of Ligand. Company shall keep Ligand reasonably informed of all material developments in connection with any such claim, suit or proceeding, and Ligand shall have the right (but not the obligation) to be separately represented, at its expense, by counsel of its own choice and to advise Company on the defense of such claim, suit or proceeding.

ARTICLE 8
CONFIDENTIALITY

8.1 Confidentiality.

8.1.1 Term of Confidentiality. Except as otherwise provided in this Section 8.1, each Party (the "Receiving Party") shall keep all Confidential Information of the other Party (the "Disclosing Party") confidential for the Research Term and [***] ([***]) years thereafter. Without the prior written consent of the Disclosing Party, the Receiving Party shall not disclose any of the Disclosing Party's Confidential Information to any Third Party, except to the officers, employees, agents, or representatives of the Receiving Party or the Receiving Party's Affiliates (collectively the "Representatives") who, in each case, have a need to know any such Confidential Information for purposes of the implementation and performance by the Receiving Party of its obligations or exercise by the Receiving Party of its rights pursuant to this Agreement, and will use the Confidential Information provided by the Disclosing Party only for such limited purposes.

8.1.2 Warranty of Obligation. Each Party warrants that each of its Representatives to whom any of the Disclosing Party's Confidential Information is disclosed shall previously have been informed of the confidential nature of such Confidential Information and shall have agreed to be bound by obligations of confidentiality and non-use at least as stringent as the terms and conditions of this Agreement. The Receiving Party shall ensure that the Confidential Information of the Disclosing Party shall not be used or disclosed by such Representatives except as permitted by this Agreement. The Receiving Party shall stand responsible for any breach by its Representatives of the confidentiality provisions set forth in this Agreement.

8.1.3 Ownership of Confidential Information. Except as provided herein with respect to the ownership of Developed Technology, all Confidential Information of the Disclosing Party shall remain the property of the Disclosing Party. Upon the written request of the Disclosing Party (i) all tangible Confidential Information of the Disclosing Party (including, but not limited to all copies thereof and all unused samples of materials provided by the Disclosing Party), except for Confidential Information consisting of analyses, studies and other documents prepared by or for the benefit of the Receiving Party, shall be promptly returned to the Disclosing Party, and (ii) all portions of such analyses, studies and other documents prepared by or for the benefit of the Receiving Party (including all copies thereof) which are within the definition of Confidential Information shall be destroyed, and the Receiving Party shall certify such destruction in writing to the Disclosing Party.

8.1.4 Permitted Disclosures. The obligations of confidentiality and non-use set forth in this Agreement shall not apply to any portion of the Disclosing Party's Confidential Information which:

(a) is or becomes public or available to the general public otherwise than through the wrongful act or default of the Receiving Party or its Representatives; or

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(b) is obtained by the Receiving Party from a Third Party who is lawfully in possession of such Confidential Information and is not subject to an obligation of confidentiality or non-use owed to the Disclosing Party; or

(c) is previously known to the Receiving Party prior to disclosure by the Disclosing Party, as shown by written evidence, and is not obtained or derived directly or indirectly from the Disclosing Party; or

(d) is independently developed by the Receiving Party without the use of or reliance on any Confidential Information provided by the Disclosing Party hereunder, as shown by contemporaneous written evidence.

8.1.5 Legal Disclosure. The Receiving Party may disclose the Confidential Information of the Disclosing Party to the extent reasonably necessary in prosecuting or defending litigation, complying with applicable laws, governmental regulations or court order, or otherwise submitting required information to tax or other governmental authorities. Except as provided in Section 13.13, if the Receiving Party intends to so disclose any such Confidential Information, the Receiving Party shall provide the Disclosing Party prompt prior notice of such fact so that the Disclosing Party may seek to obtain a protective order or other appropriate remedy concerning any disclosure of such Confidential Information, and the Receiving Party will reasonably cooperate with the Disclosing Party in connection with the Disclosing Party's efforts to obtain any such order or other remedy. If any such order or other remedy does not fully preclude the disclosure of such Confidential Information, the Receiving Party will make such disclosure only to the extent that such disclosure is legally required and will use its reasonable efforts to have confidential treatment accorded to the disclosed Confidential Information.

8.1.6 No Warranty As To Reliability. Each of the Parties acknowledges that neither Party makes any representation or warranty as to the reliability, accuracy or completeness of any of the Confidential Information disclosed hereunder, except for any specific representation or warranty made in other sections of this Agreement. The Receiving Party agrees that neither the Disclosing Party nor any of the Disclosing Party's Representatives shall have any liability to the Receiving Party arising from the disclosure of Confidential Information by the Disclosing Party except as otherwise provided herein.

8.1.7 No Implied License. Except as otherwise expressly set forth in this Agreement, nothing herein shall be construed as giving the Receiving Party any right, title and interest in and to the Confidential Information of the Disclosing Party.

8.1.8 Public Domain. For the purpose of this Agreement, specific information disclosed as part of the Confidential Information shall not be deemed to be in the public domain or in the prior possession of the Receiving Party merely because it is embraced by more general information in the public domain or by more general information in the prior possession of the Receiving Party.

8.2 Publications. The Parties will discuss and review proposed publications describing the scientific results of the Research Program. Either Party may, in its sole discretion, decide not to permit publication by the other Party of any scientific results related to the Target.

ARTICLE 9
REPRESENTATIONS AND WARRANTIES OF LIGAND

9.1 Ligand represents and warrants to Company as follows:

9.1.1 Organization. It is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware.

9.1.2 Authority. It has full corporate power and authority to execute and deliver this Agreement and to consummate the transactions contemplated hereby. All corporate acts and other proceedings required to be taken to authorize such execution, delivery, and consummation have been duly and properly taken and obtained.

9.1.3 Enforceability. This Agreement has been duly executed and delivered by Ligand and constitutes legal, valid, and binding obligations of Ligand enforceable against Ligand in accordance with its terms.

9.1.4 Approvals and Consents. No approval, authorization, consent, or other order or action of or filing with any court, administrative agency or other governmental authority is required for the execution and delivery by Ligand of this Agreement or the consummation by Ligand of the transaction contemplated hereby.

9.1.5 No Conflicts. None of the execution, delivery, or performance of this Agreement by Ligand (i) conflicts with or results in a breach under the charter documents or any material contractual undertaking of Ligand, or its Affiliates or (ii) conflicts with or results in a violation of any of the laws of the jurisdiction of incorporation of Ligand. Ligand has not, to the best of its knowledge entered into, nor will Ligand, after the Effective Date, knowingly enter into any written or oral agreement that is or would be inconsistent with its obligations under this Agreement or deprives or would deprive Company of the benefits of this Agreement.

9.1.6 Title. As of the Effective Date, it has good title to or valid leases or licenses for all its properties, rights, and assets necessary for the fulfillment of its obligations and responsibilities under this Agreement.

9.2 Disclaimer. Ligand specifically disclaims any guarantee that the Research Collaboration will be successful, in whole or in part. The failure of Ligand to successfully identify Active Compounds will not, of itself, constitute a breach of any representation or warranty or other obligation under this Agreement. Ligand does not make any representation or warranty or guaranty that the Research Collaboration will be sufficient for the successful completion of the research. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, LIGAND MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE DEVELOPED TECHNOLOGY, ACTIVE COMPOUNDS, OR LIBRARIES INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, VALIDITY OF LIGAND BASE OR DEVELOPED TECHNOLOGY, PATENTED OR UNPATENTED, OR NON-INFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

ARTICLE 10
REPRESENTATIONS AND WARRANTIES OF COMPANY

10.1 Company represents and warrants to Ligand as follows:

10.1.1 Organization. It is a corporation duly organized, validly existing and in good standing under the laws of Delaware.

10.1.2 Authority. It has full corporate power and authority to execute and deliver this Agreement and to consummate the transactions contemplated hereby. All corporate acts and other proceedings required to be taken to authorize such execution, delivery, and consummation have been duly and properly taken and obtained.

10.1.3 Enforceability. This Agreement has been duly executed and delivered by Company and constitutes legal, valid, and binding obligations of Company enforceable against Company in accordance with its terms.

10.1.4 Approvals and Consents. No approval, authorization, consent, or other order or action of or filing with any court, administrative agency or other governmental authority is required for the execution and delivery by Company of this Agreement or the consummation by Company of the transaction contemplated hereby (other than contemplated regulatory approvals for pharmaceutical products).

10.1.5 No Conflicts. No aspect of the execution, delivery, or performance of this Agreement by Company, (i) conflicts with or results in a breach under the charter documents or any material contractual undertaking of Company or its Affiliates or (ii) conflicts with or results in a violation of any of the laws of the jurisdiction of incorporation of Company. Company has not, to the best of its knowledge entered into, nor will Company after the Effective Date knowingly enter into any written or oral agreement that is or would be inconsistent with its obligations under this Agreement or deprives or would deprive Ligand of the benefits of this Agreement.

10.1.6 Title. As of the Effective Date, it has good title to or valid leases or licenses for all its properties, rights, and assets necessary for the fulfillment of its obligations and responsibilities under this Agreement.

10.1.7 Intellectual Property As of the Effective Date, to the best of Company's knowledge, the use of the Assays and the Targets during the conduct of the research described herein and performance of this Agreement by one, either or both Parties shall not infringe any intellectual property rights of any Third Party.

10.2 Disclaimer. Company specifically disclaims any guarantee that the Research Collaboration will be successful, in whole or in part. Company does not make any representation or warranty or guaranty that the Research Collaboration will be sufficient for the successful completion of the research. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, COMPANY MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE DEVELOPED TECHNOLOGY, TARGETS, ASSAYS, OR ACTIVE COMPOUNDS INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, VALIDITY OF COMPANY BASE OR DEVELOPED TECHNOLOGY, PATENTED OR UNPATENTED, OR NON-INFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

ARTICLE 11
SURVIVAL AND INDEMNIFICATION

11.1 Survival of Representations, Warranties, Covenants, and Agreement. The representations, warranties, covenants, and agreements contained in this Agreement shall survive the Research Term and the completion of the other actions set forth herein and shall remain in full force and effect. Except as expressly provided herein, the representations, warranties, covenants, and agreements contained herein constitute the only representations, warranties, covenants and agreements of the Parties hereto with respect to the subject matter contained herein. The Parties hereto confirm that they have not relied upon any other representations, warranties, covenants, and agreements as an inducement to enter into this Agreement or the other agreements and instruments to be executed and delivered by the Parties pursuant to this Agreement.

11.2 Indemnification by Ligand. Ligand hereby agrees to indemnify and hold Company, its Affiliates and their respective officers, directors, stockholders, employees, agents, and representatives (collectively, the "Company Indemnitees") harmless from and against any and all claims, liabilities, losses, damages, costs and expenses in respect of claims against the Company Indemnitees

by Third Parties, including reasonable fees and disbursements of counsel and expenses of reasonable investigation (collectively, "Company Losses"), arising out of, based upon or caused by: (i) the inaccuracy of any representation or the breach of any warranty, covenant or agreement of Ligand contained in this Agreement; (ii) any failure by Ligand, its Affiliates or designee to conduct its activities for which it is responsible under this Agreement in a diligent and professional manner and in accordance with applicable U.S. laws and regulations; or (iii) any gross negligence or intentional wrongdoing by Ligand, its Affiliates or designees in the performance of the Research Collaboration (except in each case (i) – (iii) to the extent that any Company Loss is due to the gross negligence or willful misconduct of the Company Indemnitees).

11.3 Indemnification by Company. Company hereby agrees to indemnify and hold Ligand, its Affiliates and their respective officers, directors, stockholders, employees, agents, and representatives (collectively, the "Ligand Indemnitees") harmless from and against any and all claims, liabilities, losses, damages, costs and expenses in respect of claims against the Ligand Indemnitees by Third Parties, including reasonable fees and disbursements of counsel and expenses of reasonable investigation (collectively, "Ligand Losses"), arising out of, based upon or caused by: (i) the inaccuracy of any representation or the breach of any warranty, covenant or agreement of Company contained in this Agreement; (ii) any failure by Company, its Affiliates or designee to conduct the activities for which it is responsible in a diligent and professional manner and in accordance with applicable U.S. laws and regulations; (iii) any gross negligence or intentional wrongdoing by Company, its Affiliates or designees in the performance of the research hereunder; (iv) the use of the Targets and the Company's Assays in accordance with this Agreement and Company's instructions, including but not limited to patent infringement claims in connection with the use of the Assays, the Targets and any materials relating to the Assays and the Targets; or (v) the development, pre-clinical and clinical testing, manufacture, distribution, sale or use (including but not limited to product liability and patent infringement claims) of any Active Compound or pharmaceutical product containing an Active Compound made, used or distributed by Company, its Affiliates or its sublicensees (except in each case (i) – (v) to the extent that any Ligand Loss is due to the gross negligence or willful misconduct of the Ligand Indemnitees). Notwithstanding the foregoing, it is understood that, with respect to all Targets or Assays for which indemnification is provided under this Agreement, Ligand shall not be deemed to be negligent under this Section 11.3: (a) if it has not conducted an intellectual property analysis or review of such Targets or Assays, or (b) to the extent it has conducted such an intellectual property review or analysis, if it has disclosed to Company the results of such intellectual property analysis or review, or (c) if Company has conducted such an intellectual property review or analysis, regardless of whether Company has disclosed to Ligand the results of such analysis or review, and regardless of the nature of such results.

11.4 Notices. Each indemnified Party agrees to give the indemnifying Party prompt written notice of any action, claim, demand, discovery of fact, proceeding or suit (collectively, the "Claim") for which such indemnified Party intends to assert a right to indemnification under this Agreement; provided however, that failure to give such notification shall not affect the indemnified Party's entitlement to indemnification hereunder except to the extent that the indemnifying Party shall have been prejudiced as a result of

such failure. The indemnifying Party shall have the initial right (but not the obligation) to defend, settle or otherwise dispose of any Claim for which the indemnified Party intends to assert a right to indemnification under this Agreement as contemplated in the preceding sentence if and for so long as the indemnifying Party has recognized in a written notice to the indemnified Party provided within thirty (30) days of such written notice its obligation to indemnify the indemnified Party for any Ligand Losses or Company Losses (as the case may be) relating to such Claim; provided however that if the indemnifying Party assumes control of the defense, settlement, or disposition of a Claim, the indemnifying Party shall obtain the written consent of the indemnified Party prior to ceasing to defend, settling or otherwise disposing of the Claim, such consent not to be unreasonably withheld. If the indemnifying Party fails to state in a written notice during such thirty (30) day period its willingness to assume the defense of such a Claim, the Ligand or Company Indemnitee, as the case may be, shall have the right to defend, settle or otherwise dispose of such claim, subject to the applicable provisions of Sections 11.2 and 11.3 above.

11.5 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT OR ANY TORT CLAIMS ARISING HEREUNDER, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 11.5 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 11.2 OR 11.3, OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ARTICLE 8.

ARTICLE 12
TERM, TERMINATION, AND EXPIRATION

12.1 Term of Agreement. The term of this Agreement shall commence on the Effective Date and shall continue in full force and effect until the end of the Research Term, unless terminated earlier as provided in this Article 12.

12.2 Termination.

12.2.1 Breach — Termination of Agreement and Research Collaboration. If either Party breaches, or defaults in the performance of, or fails to be in compliance with, any material warranty, representation, agreement or covenant of this Agreement, including any payment obligations, and such default or noncompliance shall not have been substantially remedied, or steps shall not have been initiated to substantially remedy the same to the other Party's reasonable satisfaction, within sixty (60) days after receipt by the defaulting Party of a written notice thereof and demand to cure such default from the other Party (except, in the case of a failure to pay any amount due hereunder, within ten (10) days after receipt of such notice), the Party not in default or breach may terminate this Agreement and the Research Collaboration, subject to the provisions set forth herein.

12.2.2 Bankruptcy — Termination of Agreement and Research Collaboration. Either Party may, subject to the provisions set forth herein, terminate the Research Collaboration and this Agreement if, at any time, the other Party shall file in any court pursuant to any statute, a petition in bankruptcy or insolvency or for reorganization in bankruptcy or for an arrangement or for the appointment of a receiver or trustee of such Party or of its assets, or if such Party proposes a written agreement of composition or extension of its debts, or if such Party shall be served with an involuntary petition against it, filed in any insolvency proceeding, and such petition shall not be dismissed within sixty (60) days after the filing thereof, or if such Party shall propose or be a party to any dissolution, or if such Party shall make an assignment for the benefit of creditors.

12.2.3 Company Termination of Research Collaboration. After payment of all amounts specified under Section 6.1 with respect to each Target selected pursuant to Section 2.2, upon prior written notice to Ligand, Company may terminate the Research Collaboration at any time, without cause, in which event all licenses granted to Active Compounds as of such time under Section 5.4 shall remain in full force and effect.

12.2.4 Rights in Law or Equity. Except as otherwise expressly provided herein, termination by either Party pursuant to this Section 12.2 shall not prejudice any other remedy that a Party might have in law or equity, except that neither Party may claim compensation for lost opportunity or like consequential damages arising out of the fact of such termination.

12.3 Effect of Breach or Termination.

12.3.1 Accrued Obligations. Termination of this Agreement for any reason shall not release any Party hereto from any liability which, at the time of such termination, has already accrued to the other Party or which is attributable to a period prior to such termination, nor 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.

12.3.2 Return of Materials. Upon any termination of this Agreement, Company and Ligand shall promptly return to the other Party or destroy all Confidential Information of the other Party then in its possession (except one copy of which may be retained for archival purposes).

12.3.3 Effect of Termination of Research Collaboration. Upon the effective date of any termination of the Research Collaboration, Company shall have no obligation to fund further research activities in the Research Collaboration after the effective date of such termination, and Ligand shall have no further obligation to conduct such research activities after such date.

12.3.4 Licenses.

(a) Termination by Ligand Pursuant to Sections 12.2.1 and 12.2.2. In the event of termination by Ligand pursuant to Section 12.2.1 or 12.2.2, the licenses granted under Section 5.4 shall terminate, and any licenses granted by Company to Ligand hereunder shall terminate, except for any license granted to Ligand under Section 7.2.3(a), which shall remain in effect.

(b) Termination by Company Pursuant to Sections 12.2.1, 12.2.2 or 12.2.3. In the event of any termination by Company pursuant to Section 12.2.1, 12.2.2 or 12.2.3 above, the licenses granted by Company hereunder shall terminate concurrently, except for any license under Section 7.2.3(a), which shall remain in effect, and any licenses granted by Ligand hereunder shall remain in effect.

12.4 Survival. Subject to Section 12.3.4(a), the provisions of Sections 4.1, 4.2, 5.1, 5.2, 5.3, 5.4, 5.6, 9.2, 10.2 and Articles 7, 8, 11, 12 and 13 shall survive the expiration or termination of this Agreement.

ARTICLE 13
MISCELLANEOUS

13.1 Notices. Any notice or other communication required or permitted to be given by either Party under this Agreement shall be in writing and shall be effective when delivered, if delivered by hand or by electronic facsimile or five days after mailing if mailed by registered or certified mail, postage prepaid and return receipt requested, and shall be addressed to each Party at the following addresses or such other address an may be designated by notice pursuant to this Section:

If to Ligand:	If to Company:
Ligand, Inc. 10275 Science Center Drive San Diego, CA 92121 Attn: Chief Executive Officer	Attn:
with copies to:	with copies to:
Ligand, Inc. 10275 Science Center Drive San Diego, CA 92121 Attn: General Counsel	Attn:

13.2 Amendments. No amendment, modification or addition to this Agreement shall be effective or binding on either Party unless set forth in writing and executed by duly authorized representatives of both Parties.

13.3 Waiver. No waiver of any rights or consent under this Agreement shall be deemed effective unless contained in writing signed by the Party charged with such waiver or consent, and no waiver of any breach or failure to perform shall be deemed a waiver of any future breach or failure to perform or any other right arising under this Agreement.

13.4 Headings. The section headings contained in this Agreement are included for convenience only and form no part of the agreement between the Parties.

13.5 Applicable Law. This Agreement shall be governed by, subject to and construed in accordance with the laws of the State of New Jersey and the Parties consent to the jurisdiction of the State and Federal Courts of New Jersey.

13.6 Severability. If any provision of this Agreement is held to be invalid, void or unenforceable for any reason, it shall be adjusted, if possible, rather than voided in order to achieve the intent of the Parties to the maximal extent possible. In any event, all other provisions of this Agreement shall be deemed valid and enforceable to the fullest extent possible.

13.7 Assignment and Binding Effect. Neither this Agreement, nor any obligations or rights hereunder, shall be assignable by any Party hereto without the prior written consent of the other Party; provided however, that either Party may assign this Agreement, or any obligations or rights hereunder, in whole or in part, without the consent of the other Party to its Affiliates, if the assigning Party guarantees the full performance of its Affiliates' obligations hereunder, or in connection with the sale or transfer of all or substantially all of its assets relating to this Agreement, whether by merger, sale of stock, operation of law or otherwise. Any purported assignment in contravention of this Section shall, at the option of the non-assigning Party, be null and void and of no effect.

13.8 No Implied Licenses. Only the licenses granted expressly herein shall be of legal force and effect. No license rights shall be created hereunder by implication, estoppel or otherwise.

13.9 Further Assurances. 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.

13.10 Force Majeure. No Party shall be liable for any failure or delay in performance under this Agreement to the extent such failure or delay arises from Force Majeure. A Force Majeure is fire, explosion, earthquake, storm, flood, strike, labor difficulties, war, insurrection, riot, act of God or the public enemy, or any law, act, order, export or import control regulations, proclamation, decree, regulation, ordinance, or instructions of local, state, federal or foreign governmental or other public authorities, or judgment or decree of a court of competent jurisdiction (but excluding a court injunction against a Party's performance) and not otherwise arising out of breach by such Party of this Agreement. In the event of the occurrence of such an event, the Party so affected shall give prompt written notice to the other Party, stating the period of time the occurrence is expected to continue and shall use best efforts to end the failure or delay and ensure that the effects of such Force Majeure are minimized.

13.11 Negation of Agency. Nothing herein contained shall be deemed to create an agency, joint venture, amalgamation, partnership, or similar relationship between Company and Ligand. The relationship between the Parties established by this Agreement is that of independent contractors.

13.12 Publicity. No public announcement concerning the existence or the terms of this Agreement shall be made, either directly or indirectly, by Ligand or Company, except as may be legally required by applicable laws, regulations, or judicial order, without first obtaining the approval of the other Party and agreement upon the nature, text, and timing of such announcement, which approval and agreement shall not be unreasonably withheld. The Party desiring to make any such public announcement shall provide the other Party with a written copy of the proposed announcement in sufficient time prior to public release to allow such other Party to comment upon such announcement, prior to public release. Except as may be legally required by applicable laws, regulations or judicial order, neither Party shall issue any press release or make any public announcement which includes or otherwise uses the name of the other Party in any public statement or document except with the prior written consent of such Party, such consent not to be unreasonably withheld.

13.13 Filing of the Agreement. To the extent, if any, that a Party concludes in good faith that it is required to file this Agreement or a notification thereof with any governmental authority, including without limitation the U.S. Securities and Exchange Commission in accordance with applicable laws and regulations, such Party may do so, and the other Party shall cooperate in such filing or notification and shall execute all documents reasonably required in connection therewith at the expense of the requesting Party; provided that in the event of any such filing of this Agreement, the filing Party shall request confidential treatment of at least the commercial terms and sensitive technical terms of this Agreement to the extent such confidential treatment is reasonably available to such Party, shall provide the other Party with a copy of this Agreement marked to show provisions for which such Party intends to seek confidential treatment, and shall reasonably consider and incorporate the other Party's comments thereon to the extent consistent with applicable legal requirements. The Parties shall promptly inform each other as to the activities or inquiries of any such governmental authority relating to this Agreement, and shall cooperate in responding to any request for further information therefrom at the expense of the requesting Party.

13.14 Entire Agreement. This Agreement contains the entire agreement between the Parties with respect to the subject matter hereof. Any prior agreement, arrangement or undertaking with respect to such subject matter, whether oral or in writing, is hereby superseded.

13.15 Beneficiaries. No Person, other than Company or Ligand and their permitted assignees hereunder, shall be deemed an intended beneficiary hereunder or have any right to enforce any obligation of this Agreement.

13.16 Advice of Counsel. Ligand and Company have each consulted counsel of their choice regarding this Agreement, and each acknowledges and agrees that this Agreement shall not be deemed to have been drafted by one Party or another and will be construed accordingly.

13.17 Affiliates of Parties. Each Party may perform its obligations hereunder personally or through one or more Affiliates and shall be responsible for the performance of such obligations, and any liabilities resulting therefrom. Neither Party shall permit any of its Affiliates to commit any act (including any act of omission) which such Party is prohibited hereunder from committing directly.

13.18 Compliance with Laws. In exercising their rights under this Agreement, the Parties shall fully comply with the requirements of any and all applicable laws, regulations, rules and orders of any governmental body having jurisdiction over the exercise of rights under this Agreement.

13.19 Dispute Resolution.

(a) Attempt to Settle. The Parties agree to take all reasonable efforts to resolve any and all disputes between them concerning diligence obligations and/or questions of material breach and default in connection with this Agreement in an amicable manner. The Parties shall seek to resolve any disputes regarding the Agreement by unanimous agreement between the Vice President, Discovery (or designee of similar rank) of Ligand and to the Head of Research (or designee of similar rank) of Company. In the event such individuals are unable to come to agreement, the disputed matter shall be referred to the Chief Executive Officers of Ligand and Company, who shall promptly meet and endeavor to come to agreement in a timely manner. If such individuals are unable to come to agreement, then such dispute matter shall be resolved pursuant to the dispute resolution provisions set forth below.

(b) Binding Arbitration. Except in the event of alleged breach or default by a bankrupt or insolvent Party, the Parties agree that any such dispute that arises in connection with this Agreement and which cannot be amicably resolved by the Parties pursuant to Section 13.19(a) shall be resolved by binding arbitration as set forth in this Section 13.19, conducted in accordance with the Commercial Arbitration Rules of the American Arbitration Association (AAA) by three (3) arbitrators.

(c) Written Notice. If a Party intends to begin an arbitration to resolve a dispute, such Party shall provide written notice to the other Party informing the other Party of such intention and the issues to be resolved. Within twenty (20) business days after its receipt of such notice, the other Party may, by written notice to the Party initiating arbitration, add additional issues to be resolved.

(d) Selection of Arbitrators. Within forty-five (45) days following the receipt of the notice of arbitration, the Parties shall agree on the arbitrators, or if the Parties are unable to agree the arbitrators shall be selected as provided in the AAA Commercial Arbitration Rules. The arbitrators shall not be employees, directors or shareholders of either Party or of an Affiliate and shall be selected in accordance with AAA rules. Where applicable, the arbitrators shall be independent experts in pharmaceutical product development (including clinical development and regulatory affairs) in the U.S., Japan and Europe.

(e) Hearings. The arbitrators shall conduct one or more hearings to allow the parties to present their positions regarding the dispute.

(i) Discovery. The arbitrators shall determine what discovery will be permitted, consistent with the goal of limiting the cost and time that the Parties must expend for discovery; provided the arbitrators shall permit such discovery as they deem necessary to permit an equitable resolution of the dispute. Any written evidence originally in a language other than English shall be submitted in English translation accompanied by the original or a true copy thereof. The arbitrators shall have sole discretion with regard to the admissibility of any evidence.

(ii) Proposed Ruling. At least ten (10) business days prior to a hearing, each Party must submit to the arbitrators and serve on the other Party a proposed ruling on each issue to be resolved. Such writings shall be limited to not more than fifty (50) pages.

(iii) Time and Testimony. Each Party shall be entitled to no more than five (5) days of hearing to present testimony or documentary evidence. Such time limitation shall include any direct, cross or rebuttal testimony, but such time limitation shall only be charged against the Party conducting such direct, cross or rebuttal testimony. It shall be the responsibility of the arbitrators to determine whether the Parties have had the five (5) days to which each is entitled.

(iv) Representation by an Attorney. Each Party shall have the right to be represented by counsel.

(v) Location. The arbitration shall take place in San Diego, CA.

(f) Costs. The costs of the arbitration, including administrative and arbitrators' fees, shall be shared equally by the Parties. Each Party shall bear its own costs and attorneys' and witness' fees.

(g) Written Decision. The arbitrators shall render a written decision with their resolution of the dispute. The decision of the arbitrators shall be final and non-appealable and binding on the Parties hereto.

(h) Remedy. A disputed performance or suspended performances pending the resolution of the arbitration must be completed within thirty (30) days following the final decision of the arbitrators or such other reasonable period as the arbitrators determine in a written opinion.

(i) Final Decision Within One Year. Any arbitration subject to this Section 13.19 shall be completed within one (1) year from the filing of notice of a request for such arbitration.

13.20 No Trademark Rights. Except as provided herein, no right, express or implied, is granted by this Agreement to use in any manner the name "Ligand," or any other trade name or trademark of either Party or its Affiliates in connection with performance of this Agreement.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

TREVENA, INC.

By: /s/ Maxine Gowen
Name: Maxine Gowen, Ph.D.
Title: Chief Executive Officer

Date: February 05, 2009

LIGAND PHARMACEUTICALS INC.

By: /s/ John L. Higgins
Name: John L. Higgins
Title: President and Chief Executive Officer

Date: February 05, 2009

Exhibit 10.320

SEPARATION AGREEMENT

This Separation Agreement (this "Agreement") is entered into between Zofia E. Dziewanowska, M.D., 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, Clinical Research and Regulatory;

WHEREAS, both the Executive and the Company have determined that it is in their mutual best interests formally and finally resolve all matters between them; and

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 March 31, 2009 (the "Termination Date"), including her position as Vice President, Clinical Research and Regulatory (and any other titles or officer positions she may hold) of the Company (and any of its affiliates and subsidiaries).

(c) Consulting Agreement. Following 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 her final paycheck, reflecting (i) her earned but unpaid base salary through March 31, 2008, and (ii) all accrued, unused PTO (vacation and sick leave) due Executive through the Termination Date. Subject to Sections 2(b) and (c) below, Executive acknowledges and agrees that with her 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, commissions, expense reimbursement, vacation pay, or other compensation she earned or was due during her employment by the Company.

(b) Compensation on Effective Date. On the Effective Date, in consideration for the Release and her continued compliance with Section 3 below, Executive shall be entitled to receive a cash lump sum payment of $499,200, consisting of (i) $332,800, representing Executive's annual base salary as in effect immediately prior to the Termination Date, and (ii) $166,400, representing Executive's maximum target bonus for 2009. In addition, for a period of twelve (12) months following the Termination Date (or such earlier date on which the Executive becomes employed by another employer offering substantial similar medical benefit coverage) (the "COBRA Coverage Period"), the Company shall pay the monthly premium Executive would be required to pay for continuation coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA") for Executive and her eligible dependents who were covered under the Company's health plans as of the Termination Date such that Executive's premiums are the same as for active employees. Executive shall be solely responsible for all matters relating to her continuation of coverage pursuant to COBRA, including, without limitation, her election of such coverage and her timely payment of the employee portion of any COBRA premiums. Following the COBRA Coverage Period, the Executive will then be responsible for paying the full cost of continuation coverage under COBRA for the Executive and her eligible dependents should the Executive elect to continue coverage after such period.

(c) Stock Awards. On the Effective Date, the vesting and/or exercisability of any outstanding unvested portions of Executive's Stock Awards (as defined below) shall be automatically accelerated. Following the Termination Date, the vested Stock Awards shall be exercisable by Executive in accordance with the terms of the Company equity plan(s) and stock award agreements pursuant to which they were granted. With respect to Executive's Stock Awards granted on or after August 17, 2007, such Stock Awards may be exercised by Executive (or Executive's guardian or legal representative) until (i) the date that is nine (9) months following the Termination Date, or (ii) such longer period as may be specified in the applicable stock award agreement; provided, however, that in no event shall any Stock Award remain exercisable beyond the original outside expiration date of such Stock Award. In addition, with respect to Executive's Stock Awards granted prior to August 17, 2007, such Stock Awards may be exercised by Executive (or Executive's guardian or legal representative) until (i) December 31, 2009 first occurring following the date the Stock Award would otherwise have expired following Executive's termination, or (ii) such longer period as may be specified in the applicable stock award agreement; provided, however, that in no event shall any such Stock Award remain exercisable beyond the original outside expiration date of such Stock Award. For purposes of this Agreement, "Stock Awards" means all stock options, stock appreciation rights, restricted stock and such other awards granted pursuant to the Company's stock option and equity incentive award plans or agreements and any shares of stock issued upon exercise thereof.

(d) 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 she is not entitled to any reimbursement by the Company for any taxes payable by her as a result of the payments and benefits received by her pursuant to this Section 2, including, without limitation, any excise tax imposed by Section 4999 of the Code.

(e) No Mitigation. Executive shall not be required to mitigate the amount of any payment provided for in this Section 2 by seeking other employment or otherwise, nor shall the amount of any payment or benefit provided for in this Section 2 be reduced by any compensation earned by Executive as the result of employment by another employer or self-employment or by retirement benefits; provided, however, that loans, advances (other than salary advances) or other amounts owed by Executive to the Company under a written agreement may be offset by the Company against amounts payable to Executive under this Section 2.

(f) 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 that the Company determines is necessary for Executive's provision of consulting services pursuant to the Consulting Agreement. The Company expressly agrees that Executive continued access to her computer, files and office are necessary for her 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 Sections 2(b) and (c) 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 fifty-five (55) days following the Termination Date. In the event the Release does not become effective (and the revocation period thereunder expired) within the fifty-five (55) day period following the Termination Date, Executive shall not be entitled to the aforesaid payments and benefits.

3. Certain Covenants. Executive hereby expressly reaffirms her 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 her services to the Company. The Company shall be entitled to cease all severance payments to Executive in the event of her breach of this Section 3.

4. Nondisparagement; Confidentiality. Executive agrees that neither she nor anyone acting by, through, under or in concert with her 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 Rules of the 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. Litigation Cooperation. Executive agrees to provide reasonable assistance to the Company (including the board of directors and any committees thereof) and its counsel and accountants in any financial audits or internal investigation involving securities, financial, accounting, or other matters, and in its defense of, or other participation in, any administrative, judicial, or other proceeding arising from any charge, complaint or other action which has been or may be filed relating to the period during which Executive was employed by the Company. The Company agrees to reimburse Executive for her reasonable expenses incurred in connection with such cooperation within thirty (30) days after receipt of an invoice from Executive setting forth in reasonable detail such expenses. Notwithstanding the foregoing, the Company shall have no obligation by virtue of this Section 6 to pay Executive for time spent by Executive in any pending or future litigation or arbitration where Executive is a co-defendant or party to the arbitration or litigation or with respect to which Executive requests indemnification pursuant to Section 7. This Section 6 shall in no way limit the Company's obligations under Section 7 below.

7. 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.

8. 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.

9. 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, and that certain offer

letter dated as of March 15, 2002, 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) Code Section 409A. The compensation and benefits payable under this Agreement, including without limitation the severance benefits described in Section 2, are not intended to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code. To the extent applicable, this Agreement shall be interpreted in accordance with Code Section 409A and Department of Treasury regulations and other interpretive guidance issued thereunder.

(k) 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.

(l) 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 her. 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 she may face.

(m) RIGHT TO ADVICE OF COUNSEL. EXECUTIVE ACKNOWLEDGES THAT SHE HAS THE RIGHT, AND IS ENCOURAGED, TO CONSULT WITH HER LAWYER; BY HER SIGNATURE BELOW, EXECUTIVE ACKNOWLEDGES THAT SHE HAS CONSULTED, OR HAS ELECTED NOT TO CONSULT, WITH HER 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/ John Sharp
Print Name: John Sharp
Title: Vice President, Finance and CFO

ZOFIA E. DZIEWANOWSKA, M.D., PH.D.

/s/ Zofia E. Dziewanowska
Print Name: Zofia E. Dziewanowska
Address: 765 Bonair Place
La Jolla, CA 92037

EXHIBIT A
GENERAL RELEASE OF CLAIMS

This General Release of Claims ("Release") is entered into as of this _____ day of _____, 2009, between Zofia E. Dziewanowska ("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 March 27, 2009 (the "Agreement");

WHEREAS, the Parties agree that Executive is entitled to certain severance benefits under the Agreement, subject to Executive's execution of this Release; 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 severance benefits payable to Executive pursuant to the Agreement, the adequacy of which is hereby acknowledged by Executive, and which Executive acknowledges that she 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 herself and her 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 her 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 SHE 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 SHE 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 her 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 her that she is waiving her rights under the ADEA, and that Executive may obtain advice concerning this Release from an attorney of her 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 her 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

Zofia E. Dziewanowska, M.D., 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 officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such 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 officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 11, 2009

/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 officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such 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 officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 11, 2009

/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 March 31, 2009, 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 March 31, 2009, 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 March 31, 2009, 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 March 31, 2009, pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Date: May 11, 2009

/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 March 31, 2009, 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 March 31, 2009, 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 March 31, 2009, 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 March 31, 2009, pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Date: May 11, 2009

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