

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

FORM 10-Q

- Quarterly Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934**
For the quarterly period ended March 31, 2019
- 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
*(State or other jurisdiction of
incorporation or organization)*

3911 Sorrento Valley Boulevard, Suite 110 San Diego, CA
(Address of principal executive offices)

77-0160744
*(I.R.S. Employer
Identification No.)*

92121
(Zip Code)

(858) 550-7500

(Registrant's Telephone Number, Including Area Code)

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

Title of each class:	Trading symbol:	Name of each exchange on which registered:
Common Stock , par value \$0.001 per share	LGND	The Nasdaq Global Market

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 every Interactive Data File required to be submitted 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 such files). Yes No

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

Large Accelerated Filer	<input checked="" type="checkbox"/>	Accelerated Filer	<input type="checkbox"/>
Non-Accelerated Filer	<input type="checkbox"/>	Smaller Reporting Company	<input type="checkbox"/>
Emerging Growth Company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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 May 7, 2019, the registrant had 19,598,405 shares of common stock outstanding.

LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

FORM 10-Q

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GLOSSARY OF TERMS AND ABBREVIATIONS

Abbreviation	Definition
2018 Annual Report	Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on February 28, 2019
2019 Notes	\$245.0 million aggregate principal amount of convertible senior unsecured notes due 2019
2023 Notes	\$750.0 million aggregate principal amount of convertible senior unsecured notes due 2023
Amgen	Amgen, Inc.
AML	Acute myeloid leukemia
ANDA	Abbreviated New Drug Application
Apricus Biosciences	Apricus Biosciences, Inc.
Aptevo Therapeutics	Aptevo Therapeutics Inc.
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
Aziyo	Aziyo Med, LLC
CEO	Chief Executive Officer
Company	Ligand Pharmaceuticals Incorporated, including subsidiaries
COPD	Chronic obstructive pulmonary disease
CorMatrix	CorMatrix Cardiovascular, Inc.
CVR	Contingent value right
Crystal	Crystal Bioscience, Inc.
CStone Pharmaceuticals	CStone Pharmaceuticals (Suzhou) Co., Ltd.
CyDex	CyDex Pharmaceuticals, Inc.
Daiichi Sankyo	Daiichi Sankyo Company, LTD
Dianomi Therapeutics	Dianomi Therapeutics, Inc.
ESPP	Employee Stock Purchase Plan, as amended and restated
FASB	Financial Accounting Standards Board
FDA	Food and Drug Administration
GAAP	Generally accepted accounting principles in the United States
Genagon	Genagon Therapeutics AB
GRA	Glucagon receptor antagonist
Ligand	Ligand Pharmaceuticals Incorporated, including subsidiaries
Melinta Therapeutics	Melinta Therapeutics, Inc.
Metabasis	Metabasis Therapeutics, Inc.
Metavant	Metavant Sciences
MCM	Mineral Coated Microparticle
NDA	New Drug Application
NOLs	Net Operating Losses
Novan	Novan, Inc.
Novartis	Novartis AG
Orange Book	Publication identifying drug products approved by the FDA based on safety and effectiveness
OTTI	Other-than-temporary impairment
PEGS	Protein Engineering Summit
Q1 2018	The Company's fiscal quarter ended March 31, 2018
Q1 2019	The Company's fiscal quarter ended March 31, 2019
Retrophin	Retrophin Inc.
reVision Therapeutics	reVision Therapeutics, Inc.
Roivant	Roivant Sciences GMBH
Sage Therapeutics	Sage Therapeutics, Inc.
SEC	Securities and Exchange Commission
Seelos Therapeutics	Seelos Therapeutics, Inc.
Selexis	Selexis, SA
Sermonix Pharmaceuticals	Sermonix Pharmaceuticals, LLC
sNDA	Supplemental New Drug Application

SQ Innovation	SQ Innovation, Inc.
Takeda	Takeda Pharmaceutical Company
Teva	Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd. and Actavis, LLC, collectively
Vernalis	Vernalis plc
Verona Pharma	Verona Pharma plc
Viking	Viking Therapeutics, Inc.
xCella Biosciences	xCella Biosciences, Inc.

PART I - FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

LIGAND PHARMACEUTICALS INCORPORATED CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited, in thousands, except par value)

	March 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 105,113	\$ 117,164
Short-term investments	1,323,575	601,217
Investment in Viking	72,741	55,448
Accounts receivable, net	26,615	55,850
Inventory	11,905	7,124
Derivative asset	18,718	22,576
Other current assets	9,228	11,161
Total current assets	1,567,895	870,540
Deferred income taxes, net	—	46,521
Intangible assets, net	216,290	219,793
Goodwill	86,809	86,646
Commercial license and other economic rights, net	31,023	31,460
Property and equipment, net	5,575	5,372
Other assets	6,396	471
Total assets	\$ 1,913,988	\$ 1,260,803
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 5,061	\$ 4,183
Accrued liabilities	14,771	19,200
Income tax payable	113,997	—
Current contingent liabilities	4,666	5,717
Deferred revenue	2,808	3,286
2019 convertible senior notes, net	26,756	26,433
Derivative liability	18,718	23,430
Total current liabilities	186,777	82,249
2023 convertible senior notes, net	616,987	609,864
Long-term contingent liabilities	8,955	6,825
Deferred income taxes, net	9,614	—
Other long-term liabilities	11,681	951
Total liabilities	834,014	699,889
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 5,000 shares authorized; none issued and outstanding at March 31, 2019 and December 31, 2018	—	—
Common stock, \$0.001 par value; 60,000 shares authorized; 19,664 and 20,766 shares issued and outstanding at March 31, 2019 and December 31, 2018, respectively	20	21
Additional paid-in capital	643,317	791,114
Accumulated other comprehensive loss	(503)	(1,024)
Retained earnings (accumulated deficit)	437,140	(229,197)
Total stockholders' equity	1,079,974	560,914
Total liabilities and stockholders' equity	\$ 1,913,988	\$ 1,260,803

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Three months ended	
	March 31,	
	2019	2018
Revenues:		
Royalties	\$ 19,538	\$ 20,820
Material sales	8,959	4,391
License fees, milestones and other revenues	14,987	30,946
Total revenues	43,484	56,157
Operating costs and expenses:		
Cost of material sales	3,858	788
Amortization of intangibles	3,503	3,278
Research and development	11,289	7,407
General and administrative	11,088	7,643
Total operating costs and expenses	29,738	19,116
Gain from sale of Promacta license	812,797	—
Income from operations	826,543	37,041
Other income (expense):		
Gain from Viking	17,293	21,097
Interest income	5,909	875
Interest expense	(8,906)	(3,480)
Other expense, net	1,874	(221)
Total other income, net	16,170	18,271
Income before income taxes	842,713	55,312
Income tax expense	(176,376)	(10,033)
Net income	\$ 666,337	\$ 45,279
Basic net income per share	\$ 32.59	\$ 2.13
Shares used in basic per share calculations	20,447	21,209
Diluted net income per share	\$ 31.32	\$ 1.83
Shares used in diluted per share calculations	21,277	24,800

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Three months ended	
	March 31,	
	2019	2018
Net income:	\$ 666,337	\$ 45,279
Unrealized net gain (loss) on available-for-sale securities, net of tax	230	(149)
Foreign currency translation	291	—
Comprehensive income	\$ 666,858	\$ 45,130

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Common Stock		Additional paid in capital	Accumulated other comprehensive income (loss)	Retain earnings (Accumulated deficit)	Total stockholders' equity
	Shares	Amount				
Balance at January 1, 2019	20,765,533	\$ 21	\$ 791,114	\$ (1,024)	\$ (229,197)	\$ 560,914
Issuance of common stock under employee stock compensation plans, net	134,748	—	(991)	—	—	(991)
Share-based compensation	—	—	5,347	—	—	5,347
Repurchase of common stock	(1,236,352)	(1)	(151,584)	—	—	(151,585)
Other comprehensive income	—	—	—	230	—	230
Foreign currency translation adjustment	—	—	—	291	—	291
Other tax adjustments	—	—	(569)	—	—	(569)
Net income	—	—	—	—	666,337	666,337
Balance at March 31, 2019	19,663,929	\$ 20	\$ 643,317	\$ (503)	\$ 437,140	\$ 1,079,974

	Common Stock		Additional paid in capital	Accumulated other comprehensive income (loss)	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balance at January 1, 2018	21,148,665	\$ 21	\$ 798,205	\$ 2,486	\$ (400,924)	\$ 399,788
Issuance of common stock under employee stock compensation plans, net	166,315	1	5,118	—	—	5,119
Reclassification of equity component of currently redeemable convertible notes	—	—	2,781	—	—	2,781
Share-based compensation	—	—	4,555	—	—	4,555
Repurchase of common stock	(13,000)	(1)	(1,894)	—	—	(1,895)
Other comprehensive income	—	—	—	(110)	—	(110)
Cumulative-effect adjustment from adoption of ASU 2016-01	—	—	—	(2,662)	2,662	—
Cumulative-effect adjustment from adoption of ASU 2014-09, net of tax	—	—	—	—	25,583	25,583
Net income	—	—	—	—	45,279	45,279
Balance at March 31, 2018	21,301,980	\$ 21	\$ 808,765	\$ (286)	\$ (327,400)	\$ 481,100

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Three months ended	
	March 31,	
	2019	2018
Cash flows from operating activities:		
Net income	\$ 666,337	\$ 45,279
Adjustments to reconcile net income to net cash provided by operating activities:		
Gain from sale of Promacta license	(812,797)	—
Non-cash change in estimated fair value of contingent liabilities	1,403	960
Depreciation and amortization	5,086	3,002
Amortization of premium (discount) on investments, net	(1,818)	—
Amortization of debt discount and issuance fees	7,446	3,018
Share-based compensation	5,347	4,555
Deferred income taxes	62,263	9,862
Gain from investment in Viking	(17,293)	(21,931)
Other	(5,130)	—
Royalties recorded in retained earnings upon adoption of ASC 606	—	32,707
Changes in operating assets and liabilities:		
Accounts receivable, net	29,235	(11,512)
Inventory	(2,823)	(4,978)
Accounts payable and accrued liabilities	(1,876)	321
Income tax payable	113,997	—
Other	(4,119)	(522)
Net cash provided by operating activities	45,258	60,761
Cash flows from investing activities:		
Proceeds from sale of Promacta license	812,797	—
Purchase of short-term investments	(1,047,767)	(98,957)
Proceeds from sale of short-term investments	341	12,291
Proceeds from maturity of short-term investments	332,647	54,325
Other	(3,241)	(1,240)
Net cash provided by (used in) investing activities	94,777	(33,581)
Cash flows from financing activities:		
Net proceeds from stock option exercises and ESPP	1,904	8,916
Taxes paid related to net share settlement of equity awards	(2,895)	(3,797)
Share repurchase	(151,585)	(1,895)
Net cash provided by (used in) financing activities	(152,576)	3,224
Effect of exchange rate changes on cash	130	—
Net (decrease) increase in cash, cash equivalents and restricted cash	(12,411)	30,404
Cash, cash equivalents and restricted cash at beginning of period	119,780	20,620
Cash, cash equivalents and restricted cash at end of period	\$ 107,369	\$ 51,024
Supplemental disclosure of cash flow information:		
Interest paid	\$ 102	\$ 919
Taxes paid	\$ 60	\$ 171
Restricted cash in other current assets	\$ 2,256	\$ —
Supplemental schedule of non-cash activity:		
Accrued fixed asset purchases	\$ 301	\$ —
Accrued inventory purchases	\$ 1,959	\$ 1,180
Unrealized gain on AFS investments	\$ 294	\$ —

See accompanying notes to unaudited condensed consolidated financial statements.

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

Unless the context requires otherwise, references in this report to “Ligand,” “we,” “us,” the “Company,” and “our” refer to Ligand Pharmaceuticals Incorporated and its consolidated subsidiaries.

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

Our condensed consolidated financial statements include the financial statements of Ligand and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. We have included all adjustments, consisting only of normal recurring adjustments, which we considered necessary for a fair presentation of our financial results. These unaudited condensed consolidated financial statements and accompanying notes should be read together with the audited consolidated financial statements included in our 2018 Annual Report. Interim financial results are not necessarily indicative of the results that may be expected for the full year.

Reclassifications

Certain amounts in the prior period consolidated financial statements have been reclassified to conform with the current period presentation. Specifically, our investment in Viking warrants was reclassified from “other current assets” to “investment in Viking” in the audited consolidated balance sheet as of December 31, 2018.

Significant Accounting Policies

We have described our significant accounting policies in *Note 1, Basis of Presentation and Summary of Significant Accounting Policies*, of Notes to Consolidated Financial Statements in our 2018 Annual Report.

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with GAAP requires the use of estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and the accompanying notes. Actual results may differ from those estimates.

Accounting Standards Recently Adopted

Leases - In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. This standard requires organizations that lease assets to recognize the assets and liabilities created by those leases. The standard also requires disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. In 2018, the FASB issued guidance that provides an optional transition method for adoption of this standard, which allows organizations to initially apply the new requirements at the effective date, recognize a cumulative effect adjustment to the opening balance of retained earnings, and continue to apply the legacy guidance in ASC 840, *Leases (Topic 840)*, including its disclosure requirements, in the comparative periods presented. We adopted this standard on January 1, 2019 by applying this optional transition method. For leases with a term of 12 months or less, we elected to not recognize lease assets and lease liabilities and expense the leases over a straight-line basis for the term of those leases. In addition, we elected the available package of practical expedients upon adoption, which allowed us to carry forward our historical assessment of whether existing agreements contained a lease and the classification of our existing operating leases. We did not elect to use the hindsight practical expedient to determine the lease term or evaluate impairment for existing leases. We continue to report our financial position as of December 31, 2018 under Topic 840 in our audited consolidated balance sheet. The adoption of this standards update resulted in the recognition of right-of-use assets of approximately \$5.2 million and lease liabilities of approximately \$5.9 million on our unaudited condensed consolidated balance as of January 1, 2019, with no material impact to our consolidated statement of operations. See *Note 8, Leases*, for further information regarding the impact of the adoption of ASU 2016-02 on our financial statements.

Accounting Standards Not Yet Adopted

Financial Instruments - In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments (Topic 326)*, which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses on certain types of financial instruments, including trade receivables and available for sale debt securities. ASU 2016-13 is effective for us beginning in the first quarter of 2020, with early adoption permitted. We are currently evaluating the impact of this ASU on our consolidated financial statements.

Fair Value Measurement - In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement: Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement (Topic 820)*, which modifies the disclosure requirements on fair value measurements. ASU 2018-13 is effective for us beginning in the first quarter of 2020, with earlier adoption permitted. We are currently evaluating the impact of this ASU on our consolidated financial statements.

Collaborative Arrangements - In November 2018, the FASB issued ASU 2018-18, *Collaborative Arrangements: Clarifying the Interaction between Topic 808 and Topic 606 (Topic 808)*. The new standard clarifies that certain transactions between participants in a collaborative arrangement should be accounted for under Topic 606, *Revenue from Contracts with Customers*, when the counterparty is a customer for a good or service that is a distinct unit of account. The amendments also preclude entities from presenting consideration from transactions with a collaborator that is not a customer together with revenue recognized from contracts with customers. The new standard is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted in any interim period for entities that have adopted ASC 606. The standard should be applied retrospectively to the period when we initially adopted ASC 606. We are currently evaluating the impact of adopting this ASU on our consolidated financial statements.

We do not believe that any other recently issued, but not yet effective accounting pronouncements, if adopted, would have a material impact on our consolidated financial statements or disclosures.

Revenue

Our revenue is generated primarily from royalties on sales of products commercialized by our partners, Captisol material sales, license fees and development, regulatory and sales based milestone payments, and other service revenue.

Royalties, License Fees and Milestones

We receive royalty revenue on sales by our partners of products covered by patents that we own. We do not have future performance obligations under these license arrangements. We generally satisfy our obligation to grant intellectual property rights on the effective date of the contract. However, we apply the royalty recognition constraint required under the guidance for sales-based royalties which requires a sales-based royalty to be recorded no sooner than the underlying sale. Therefore, royalties on sales of products commercialized by our partners are recognized in the quarter the product is sold. Our partners generally report sales information to us on a one quarter lag. Thus, we estimate the expected royalty proceeds based on an analysis of historical experience and interim data provided by our partners including their publicly announced sales. Differences between actual and estimated royalty revenues are adjusted for in the period in which they become known, typically the following quarter.

Our contracts with customers often will include future contingent milestone based payments. We include contingent milestone based payments in the estimated transaction price when there is a basis to reasonably estimate the amount of the payment. These estimates are based on historical experience, anticipated results and our best judgment at the time. If the contingent milestone based payment is sales-based, we apply the royalty recognition constraint and record revenue when the underlying sale has taken place. Significant judgments must be made in determining the transaction price for our sales of intellectual property. Because of the risk that products in development with our partners will not reach development based milestones or receive regulatory approval, we generally recognize any contingent payments that would be due to us upon or after the development milestone or regulatory approval.

Material Sales

We recognize revenue when control of Captisol material or intellectual property license rights is transferred to our customers in an amount that reflects the consideration we expect to receive from our customers in exchange for those products. This process involves identifying the contract with a customer, determining the performance obligations in the contract, determining the contract price, allocating the contract price to the distinct performance obligations in the contract, and recognizing revenue when the performance obligations have been satisfied. A performance obligation is considered distinct from other obligations in

a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. We consider a performance obligation satisfied once we have transferred control of the product, meaning the customer has the ability to use and obtain the benefit of the Captisol material or intellectual property license right. We recognize revenue for satisfied performance obligations only when we determine there are no uncertainties regarding payment terms or transfer of control. Sales tax and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. We expense incremental costs of obtaining a contract when incurred if the expected amortization period of the asset that we would have recognized is one year or less or the amount is immaterial. We did not incur any incremental costs of obtaining a contract during the periods reported.

Depending on the terms of the arrangement, we may also defer a portion of the consideration received because we have to satisfy a future obligation. We use an observable price to determine the stand-alone selling price for separate performance obligations or a cost plus margin approach when one is not available. We have elected to recognize the cost for freight and shipping when control over Captisol material has transferred to the customer as an expense in cost of material sales.

The timing of revenue recognition, billings and cash collections results in billed accounts receivable, unbilled receivables (contract assets), and customer advances and deposits (contract liabilities) on the Consolidated Balance Sheet. Except for royalty revenue and certain service revenue, we generally receive payment at the point we satisfy our obligation or soon after. Therefore, we do not generally carry a contract asset balance. Any fees billed in advance of being earned are recorded as deferred revenue. During the three months ended March 31, 2019, the amount recognized as revenue that was previously deferred was not material.

Disaggregation of Revenue

The following table represents disaggregation of Royalties, Material Sales and License fees, milestone and other (in thousands):

	Three months ended	
	March 31,	
	2019	2018
Royalties		
Promacta	\$ 14,193	\$ 15,573
Kyprolis	3,833	3,262
Evomela	911	1,600
Other	601	385
	<u>\$ 19,538</u>	<u>\$ 20,820</u>
Material Sales		
Captisol	\$ 8,959	\$ 4,391
License fees, milestones and other		
License Fees	\$ 850	\$ 26,955
Milestone	11,932	2,825
Other	2,205	1,166
	<u>\$ 14,987</u>	<u>\$ 30,946</u>
Total	<u><u>\$ 43,484</u></u>	<u><u>\$ 56,157</u></u>

Short-term Investments

Our investments consist of the following at March 31, 2019 and December 31, 2018 (in thousands):

	March 31, 2019				December 31, 2018			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Short-term investments								
Bank deposits	\$ 673,988	\$ 184	\$ (20)	\$ 674,152	\$ 311,066	\$ 26	\$ (29)	\$ 311,063
Corporate bonds	74,875	56	(1)	74,930	53,223	1	(45)	53,179
Commercial paper	563,585	60	(112)	563,533	225,731	8	(76)	225,663
U.S. Government bonds	3,013	—	(3)	3,010	7,982	—	(9)	7,973
Municipal bonds	—	—	—	—	2,017	—	(4)	2,013
Corporate equity securities ⁽¹⁾	4,525	2,915	—	7,440	135	1,191	—	1,326
Warrants	—	510	—	510	—	—	—	—
	<u>\$ 1,319,986</u>	<u>\$ 3,725</u>	<u>\$ (136)</u>	<u>\$ 1,323,575</u>	<u>\$ 600,154</u>	<u>\$ 1,226</u>	<u>\$ (163)</u>	<u>\$ 601,217</u>

(1) The amortized cost for corporate equity securities represents the original purchase cost of the equity securities.

Inventory

Inventory, which consists of finished goods, is stated at the lower of cost or net realizable value. We determine cost using the first-in, first-out method.

Goodwill and Other Identifiable Intangible Assets

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

	March 31,	December 31,
	2019	2018
Goodwill	\$ 86,809	\$ 86,646
Definite lived intangible assets		
Complete technology	235,413	235,413
Less: accumulated amortization	(38,169)	(35,070)
Trade name	2,642	2,642
Less: accumulated amortization	(1,081)	(1,048)
Customer relationships	29,600	29,600
Less: accumulated amortization	(12,115)	(11,744)
Total goodwill and other identifiable intangible assets, net	<u>\$ 303,099</u>	<u>\$ 306,439</u>

Commercial License and Other Economic Rights

Commercial license and other economic rights consist of the following (in thousands):

	March 31,	December 31,
	2019	2018
Aziyo and CorMatrix	\$ 17,696	\$ 17,696
Palvella	10,000	10,000
Selexis	8,602	8,602
Dianomi	2,000	—
	<u>38,298</u>	<u>36,298</u>
Less: accumulated amortization attributed to principal or research and development	(7,275)	(4,838)
Total commercial license and other economic rights, net	<u>\$ 31,023</u>	<u>\$ 31,460</u>

Commercial license and other economics rights represent a portfolio of future milestone and royalty payment rights acquired from Selexis in April 2013 and April 2015, CorMatrix in May 2016, Palvella in December 2018 and Dianomi in January 2019. Commercial license rights acquired are accounted for as financial assets and other economic rights are accounted for as funded research and developments as further discussed below.

In May 2017, we entered into a Royalty Agreement with Aziyo pursuant to which we will receive royalties from certain marketed products that Aziyo acquired from CorMatrix. We account for the Aziyo commercial license right as a financial asset in accordance with ASC 310, *Receivables*, and amortize the commercial license right using the effective interest method whereby we forecast expected cash flows over the term of the arrangement to arrive at an annualized effective interest. The annual effective interest associated with the forecasted cash flows from the Royalty Agreement with Aziyo as of March 31, 2019 is 23%. Revenue is calculated by multiplying the carrying value of the commercial license right by the effective interest.

In December 2018, we entered into a development funding and royalties agreement with Palvella. Pursuant to the agreement, we may receive up to \$0.0 million of milestone payments upon the achievement by Palvella of certain corporate, financing and regulatory milestones for PTX-022, a product candidate being developed to treat pachyonychia congenita. In addition to the milestone payments, Palvella will pay us tiered royalties from 5.0% to 9.8% based on any aggregate annual worldwide net sales of any PTX-022 products, subject to Palvella's right to reduce the royalty rates by making payments in certain circumstances. We paid Palvella an upfront payment of \$10.0 million, which Palvella is required to use to fund the development of PTX-022. We are not obligated to provide additional funding to Palvella for the development or commercialization of PTX-022. We determined the economic rights related to Palvella should be characterized as a funded research and development arrangement, thus we will account for in accordance with ASC 730-20, *Research and Development Arrangements*, and will reduce our asset as the funds are expended by Palvella. We will evaluate the remaining asset basis for impairment on an ongoing basis. As it is anticipated, prior to the receipt of any payments from Palvella that the cost basis will be reduced to zero, we will recognize milestones and royalties as revenue when earned.

See further detail described in *Note 1, Basis of Presentation and Summary of Significant Accounting Policies* of Notes to Consolidated Financial Statements in our 2018 Annual Report.

Viking

Our equity ownership interest in Viking decreased in the first quarter of 2018 to approximately 12.4% due to Viking's financing events in February 2018. As a result, in February 2018, we concluded that we did not exert significant influence over Viking and discontinued accounting for our investment in Viking under the equity method. We also have outstanding warrants to purchase 1.5 million shares of Viking's common stock at an exercise price of \$1.50 per share. We recorded the warrants in "investment in Viking" in our condensed consolidated balance sheets at fair value of \$12.7 million at March 31, 2019. Our investment in Viking warrants in the amount of \$9.3 million was reclassified from "other current assets" to "investment in Viking" in the audited consolidated balance sheet as of December 31, 2018 to conform to the current period presentation.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	<u>March 31,</u>	<u>December 31,</u>
	<u>2019</u>	<u>2018</u>
Compensation	\$ 2,384	\$ 4,045
Professional fees	1,022	942
Amounts owed to former licensees	427	428
Royalties owed to third parties	1,084	1,025
Payments due to broker for share repurchases	—	4,613
Return reserve	2,813	3,590
Restructuring	287	1,093
Current lease liabilities	1,187	—
Other	5,567	3,464
Total accrued liabilities	<u>\$ 14,771</u>	<u>\$ 19,200</u>

Share-Based Compensation

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

	Three months ended	
	March 31,	
	2019	2018
Share-based compensation expense as a component of:		
Research and development expenses	\$ 2,127	\$ 1,767
General and administrative expenses	3,220	2,788
	<u>\$ 5,347</u>	<u>\$ 4,555</u>

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,	
	2019	2018
Risk-free interest rate	2.5%	2.7%
Dividend yield	—	—
Expected volatility	44%	33%
Expected term	5.1	5.7

Derivatives

On May 22, 2018, we amended our 2019 Notes making an irrevocable election to settle the entire note in cash. As a result, we reclassified from equity to derivative liability the fair value of the conversion premium as of May 22, 2018. Amounts paid in excess of the principal amount will be offset by an equal receipt of cash under the corresponding convertible bond hedge. As a result, we reclassified from equity to derivative asset the fair value of the bond hedge as of May 22, 2018. Changes in the fair value of these derivatives are reflected in other expense, net, in our condensed consolidated statements of operations.

The following table summarizes the inputs and assumptions used in the Black-Scholes model to calculate the fair value of the derivative assets and the inputs and assumptions used in the Binomial model to calculate the fair value of the derivative liability associated with the 2019 Notes:

	As of March 31, 2019
Common stock price	\$125.71
Exercise price, conversion premium and bond hedge	\$75.05
Risk-free interest rate	2.46%
Volatility	35%
Dividend yield	—
Annual coupon rate	0.75%
Remaining contractual term (in years)	0.38

Income Per Share

Basic income per share is calculated by dividing net income by the weighted-average number of common shares outstanding during the period. Diluted income per share is computed based on the sum of the weighted average number of common shares and potentially dilutive common shares outstanding during the period.

Potentially dilutive common shares consist of shares issuable under 2019 Notes and 2023 Notes, stock options and restricted stock. 2019 Notes and 2023 Notes have a dilutive impact when the average market price of the Company's common stock exceeds the applicable conversion price of the respective notes. It is our intent and policy to settle conversions through combination settlement, which involves payment in cash equal to the principal portion and delivery of shares of common stock for the excess of the conversion value over the principal portion. In addition, after May 22, 2018, the 2019 Notes can only be settled in cash and therefore there will have no further impact on income per share of these notes. Potentially dilutive common shares from stock options and restricted stock are determined using the average share price for each period under the treasury stock method. In addition, the following amounts are assumed to be used to repurchase shares: proceeds from exercise of stock options and the average amount of unrecognized compensation expense for the awards.

The following table presents the calculation of weighted average shares used to calculate basic and diluted earnings per share (in thousands):

	Three months ended	
	March 31,	
	2019	2018
Weighted average shares outstanding:	20,447	21,209
Dilutive potential common shares:		
Restricted stock	45	64
Stock options	785	1,119
2019 Convertible Senior Notes	—	1,719
Warrants	—	689
Shares used to compute diluted income per share	21,277	24,800
Potentially dilutive shares excluded from calculation due to anti-dilutive effect	7,015	148

2. Sale of Promacta License

On March 5, 2019, we entered into an Asset Purchase Agreement (the "Asset Purchase Agreement") with RPI Finance Trust ("RPI"), doing business as "Royalty Pharma", who is not an affiliate. Under the Asset Purchase Agreement, we sold, transferred, assigned and conveyed to RPI, and RPI purchased, acquired and accepted from us, all of our rights, title and interest in and to the Purchased Assets, which include among other things the intellectual property and related know-how generated by us in connection with the license agreement (collectively, the "Purchased Assets"), dated December 29, 1994, by and between Novartis (as successor in interest to SmithKline Beecham Corporation) and Ligand, which allowed us to receive a royalty on net sales of Promacta. We concluded the sale does not qualify as a sale of a business, but as a sale of a non-financial asset. At the closing on March 6, 2019, RPI paid us \$827.0 million in cash and we do not have any remaining performance obligations related to Novartis or RPI for Promacta. The carrying value of our Promacta asset as of March 6, 2019 was zero. Of the total cash proceeds from the sale, \$14.2 million was recorded to revenue related to the Promacta royalty for the period between January 1, 2019 and March 6, 2019, and the remaining \$812.8 million was recorded to income from operations in accordance with ASC 610-20, *Other Income - Gains and Losses from the Derecognition of Nonfinancial Assets*.

3. Fair Value Measurements

Assets and Liabilities Measured on a Recurring Basis

The following table presents the hierarchy for our assets and liabilities measured at fair value (in thousands):

	March 31, 2019				December 31, 2018			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Short-term investments ⁽¹⁾	\$ 67,458	\$ 1,315,625	\$ —	\$ 1,383,083	\$ 47,517	\$ 599,891	\$ —	\$ 647,408
Investment in warrants ⁽²⁾	12,723	—	510	13,233	9,257	—	—	9,257
Total assets	\$ 80,181	\$ 1,315,625	\$ 510	\$ 1,396,316	\$ 56,774	\$ 599,891	\$ —	\$ 656,665
Liabilities:								
Crystal contingent liabilities ⁽³⁾	\$ —	\$ —	\$ 4,976	\$ 4,976	\$ —	\$ —	\$ 6,477	\$ 6,477
CyDex contingent liabilities	—	—	464	464	—	—	514	514
Metabasis contingent liabilities ⁽⁴⁾	—	—	8,181	8,181	—	5,551	—	5,551
Amounts owed to former licensor	147	—	—	147	199	—	—	199
Total liabilities	\$ 147	\$ —	\$ 13,621	\$ 13,768	\$ 199	\$ 5,551	\$ 6,991	\$ 12,741

- Investments in equity securities, which we received from Viking and another licensee as upfront and event-based payments, are classified as level 1 as the fair value is determined using quoted market prices in active markets for the same securities. Short-term investments in marketable debt securities with maturities greater than 90 days are classified as available-for-sale securities based on management's intentions and are at level 2 of the fair value hierarchy, as these investment securities are valued based upon quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market.
- Investment in warrants, which we received as a result of Viking's partial repayment of the Viking note receivable and our purchase of Viking common stock and warrants in April 2016, are classified as level 1 as the fair value is determined using quoted market prices in active markets for the same securities. The change of the fair value is recorded in Gain (loss) from Viking in our condensed consolidated statement of operations. In addition, we have investment in warrants resulting from Seelos milestone payments that were settled in shares during the first quarter of 2019 and are at level 3 of the fair value hierarchy, based on intrinsic value estimated by management as of March 31, 2019.
- The fair value of Crystal contingent liabilities was determined using a probability weighted income approach. Most of the contingent payments are based on development or regulatory milestones as defined in the merger agreement with Crystal. The fair value is subjective and is affected by changes in inputs to the valuation model including management's estimates regarding the timing and probability of achievement of certain developmental and regulatory milestones. At March 31, 2019, most of the development and regulatory milestones were estimated to be highly probable of being achieved between 2018 and 2019. Changes in these estimates may materially affect the fair value.
- In connection with our acquisition of Metabasis in January 2010, we issued Metabasis stockholders four tradable CVRs, one CVR from each of four respective series of CVR, for each Metabasis share. The CVRs entitle Metabasis stockholders to cash payments as frequently as every six months as cash is received by the Company from proceeds from the sale or partnering of any of the Metabasis drug development programs, among other triggering events. The liability for the CVRs is determined using quoted prices in a market that is not active for the underlying CVR. The carrying amount of the liability may fluctuate significantly based upon quoted market prices and actual amounts paid under the agreements may be materially different than the carrying amount of the liability. Several of the Metabasis drug development programs have been outlicensed to Viking, including VK2809. VK2809 is a novel selective TR- β agonist with potential in multiple indications, including hypercholesterolemia, dyslipidemia, NASH, and X-ALD. Under the terms of the agreement with Viking, we may be entitled to up to \$375 million of development, regulatory and commercial milestones and tiered royalties on potential future sales including a \$10 million payment upon initiation of a Phase 3 clinical trial. Another Metabasis drug development program, RVT-1502, has been outlicensed to Metavant. RVT-1502 is a novel, orally-bioavailable, small molecule, glucagon receptor antagonist or "GRA."

For the three months ended March 31, 2019, we reduced the contingent liabilities associated with Crystal by \$.5 million based on management's estimates of timing and probability of achievement of certain milestones and revenue thresholds. We made a \$1.0 million payment to the former shareholders of Crystal during the first quarter of 2018.

Assets Measured on a Non-Recurring Basis

We apply fair value techniques on a non-recurring basis associated with valuing potential impairment losses related to our goodwill, indefinite-lived intangible assets and long-lived assets.

We evaluate goodwill and indefinite-lived intangible assets annually for impairment and whenever circumstances occur indicating that goodwill might be impaired. We determine the fair value of our reporting unit based on a combination of inputs, including the market capitalization of Ligand, as well as Level 3 inputs such as discounted cash flows, which are not observable from the market, directly or indirectly. We determine the fair value of our indefinite-lived intangible assets using the income approach based on Level 3 inputs.

There were no triggering events identified and no indication of impairment of our goodwill, indefinite-lived intangible assets, or long-lived assets during the three months ended March 31, 2019 and March 31, 2018.

4. Convertible Senior Notes

0.75% Convertible Senior Notes due 2019

In August 2014, we issued \$245.0 million aggregate principal amount of 2019 Notes. The implied estimated effective rate of the liability component of the 2019 Notes was 5.83% and are convertible into common stock at an initial conversion rate of 13.3251 shares per \$1,000 principal amount of 2019 Notes, subject to adjustment upon certain events, which is equivalent to an initial conversion price of approximately \$75.05 per share of common stock. The notes bear cash interest at a rate of 0.75% per year, payable semi-annually.

Holders of the 2019 Notes may convert the notes at any time prior to the close of business on the business day immediately preceding May 15, 2019, under any of the following circumstances:

- (1) during any fiscal quarter (and only during such fiscal quarter) commencing after December 31, 2014, if, for at least 20 trading days (whether or not consecutive) during the 30 consecutive trading day period ending on the last trading day of the immediately preceding fiscal quarter, the last reported sale price of our common stock on such trading day is greater than 130% of the conversion price on such trading day;
- (2) during the five business day period immediately following any 10 consecutive trading day period, in which the trading price per \$1,000 principal amount of notes was less than 98% of the product of the last reported sale price of our common stock on such trading day and the conversion rate on each such trading day; or
- (3) upon the occurrence of certain specified corporate events as specified in the indenture governing the notes.

On May 22, 2018, we entered into a supplemental indenture whereby we made an irrevocable election to settle the entire 2019 Notes in cash. As such, we must deliver cash to settle the principal and any premium due upon conversion. As a result of the requirement to deliver cash to settle any premium due upon conversion we now account for the conversion option as a derivative liability at fair value. In accordance with ASC 815, *Derivatives and Hedging*, the derivative was adjusted to its fair value as of March 31, 2019 to \$18.7 million with the resulting \$4.7 million decrease reflected in other expense, net, in our condensed consolidated statements of operations for the three months ended March 31, 2019.

Convertible Bond Hedge and Warrant Transactions

In August 2014, we entered into convertible bond hedges and sold warrants covering 3,264,643 shares of our common stock to minimize the impact of potential dilution to our stockholders and/or offset the cash payments we are required to make in excess of the principal amount upon conversion of the 2019 Notes.

The convertible bond hedges have an exercise price of \$75.05 per share and are exercisable when and if the 2019 Notes are converted. If upon conversion of the 2019 Notes, the price of our common stock is above the exercise price of the convertible bond hedges, the counterparties will deliver shares of common stock and/or cash with an aggregate value equal to the difference between the price of common stock at the conversion date and the exercise price, multiplied by the number of shares of common stock related to the convertible bond hedge transaction being exercised. The convertible bond hedges and warrants described below are separate transactions entered into by us and are not part of the terms of the 2019 Notes. Holders of the 2019 Notes and warrants will not have any rights with respect to the convertible bond hedges. We paid \$48.1 million for these convertible bond hedges and recorded the amount as a reduction to additional paid-in capital.

As a result of the irrevocable cash election, conversion notices received relating to the 2019 Notes after May 22, 2018 must be fully settled in cash and amounts paid in excess of the principal amount will be offset by an equal receipt of cash under the convertible bond hedge. We account for the bond hedge as a derivative asset and marked it to market as of March 31, 2019 at \$18.7 million with the resulting \$3.9 million increase reflected in other expense, net, in our condensed consolidated statements of operations for the three months ended March 31, 2019.

Concurrently with the convertible bond hedge transactions, we entered into warrant transactions whereby we sold warrants to acquire approximately 3,264,643 shares of common stock with an exercise price of approximately \$125.08 per share, subject to certain adjustments. The warrants have various expiration dates ranging from November 13, 2019 to April 22, 2020. The warrants will have a dilutive effect to the extent the market price per share of common stock exceeds the applicable exercise price of the warrants, as measured under the terms of the warrant transactions. We received \$11.6 million for these warrants and recorded this amount to additional paid-in capital. The common stock issuable upon exercise of the warrants will be in unregistered shares, and we do not have the obligation and do not intend to file any registration statement with the SEC registering the issuance of the shares under the warrants. We continue to have the ability to avoid settling the warrants associated with the 2019 Notes in cash after May 22, 2018. Accordingly, the warrants continue to be classified in additional paid in capital. In November 2018, we repurchased a total of 525,000 warrants. As a result, 2,739,643 warrants remained outstanding as of both March 31, 2019 and December 31, 2018.

0.75% Convertible Senior Notes due 2023

In May 2018, we issued \$750.0 million aggregate principal amount of 0.75% convertible senior notes. The net proceeds from the offering, after deducting the initial purchasers' discount and offering expenses, were approximately \$733.1 million. The 2023 Notes will be convertible into cash, shares of common stock, or a combination of cash and shares of common stock, at our election, based on an initial conversion rate, subject to adjustment, of 4.0244 shares per \$1,000 principal amount of the 2023 Notes which represents an initial conversion price of approximately \$248.48 per share.

Holders of the 2023 Notes may convert the notes at any time prior to the close of business on the business day immediately preceding November 15, 2022, under any of the following circumstances:

- (1) during any fiscal quarter (and only during such fiscal quarter) commencing after September 30, 2018, if, for at least 20 trading days (whether or not consecutive) during the 30 consecutive trading day period ending on the last trading day of the immediately preceding fiscal quarter, the last reported sale price of our common stock on such trading day is greater than 130% of the conversion price on such trading day;
- (2) during the five business day period immediately following any 10 consecutive trading day period, in which the trading price per \$1,000 principal amount of notes was less than 98% of the product of the last reported sale price of our common stock on such trading day and the conversion rate on each such trading day; or
- (3) upon the occurrence of certain specified corporate events as specified in the indenture governing the notes.

The notes will have a dilutive effect to the extent the average market price per share of common stock for a given reporting period exceeds the conversion price of \$48.48. As of March 31, 2019, the "if-converted value" did not exceed the principal amount of the 2023 Notes. In connection with the issuance of the 2023 Notes, we incurred \$16.9 million of issuance costs, which primarily consisted of underwriting, legal and other professional fees. The portion of these costs allocated to the liability component totaling \$13.7 million is amortized to interest expense using the effective interest method over the five year expected life of the 2023 Notes. It is our intent and policy to settle conversions through combination settlement, which essentially involves payment in cash equal to the principal portion and delivery of shares of common stock for the excess of the conversion value over the principal portion.

Convertible Bond Hedge and Warrant Transactions

In conjunction with the 2023 Notes, in May 2018, we entered into convertible bond hedges and sold warrants covering 3,018,327 shares of its common stock to minimize the impact of potential dilution to our common stock and/or offset the cash payments we are required to make in excess of the principal amount upon conversion of the 2023 Notes. The convertible bond hedges have an exercise price of \$248.48 per share and are exercisable when and if the 2023 Notes are converted. We paid \$40.3 million for these convertible bond hedges. If upon conversion of the 2023 Notes, the price of our common stock is above the exercise price of the convertible bond hedges, the counterparties will deliver shares of common stock and/or cash with an aggregate value approximately equal to the difference between the price of common stock at the conversion date and the exercise price, multiplied by the number of shares of common stock related to the convertible bond hedge transaction being exercised. The convertible bond hedges and warrants described below are separate transactions entered into by us and are not part of the terms of the 2023 Notes. Holders of the 2023 Notes and warrants will not have any rights with respect to the convertible bond hedges.

Concurrently with the convertible bond hedge transactions, we entered into warrant transactions whereby we sold warrants covering approximately 3,018,327 shares of common stock with an exercise price of approximately \$315.38 per share, subject to certain adjustments. We received \$90.0 million for these warrants. The warrants have various expiration dates ranging from August 15, 2023 to February 6, 2024. The warrants will have a dilutive effect to the extent the market price per share of common stock exceeds the applicable exercise price of the warrants, as measured under the terms of the warrant transactions. The common stock issuable upon exercise of the warrants will be in unregistered shares, and we do not have the obligation and do not intend to file any registration statement with the SEC registering the issuance of the shares under the warrants.

The following table summarizes information about the equity and liability components of the 2019 Notes and 2023 Notes (in thousands):

	March 31, 2019	December 31, 2018
Principal amount of 2019 Notes outstanding	\$ 27,323	\$ 27,326
Unamortized discount (including unamortized debt issuance cost)	(567)	(893)
Total current portion of notes payable	\$ 26,756	\$ 26,433
Principal amount of 2023 Notes outstanding	\$ 750,000	\$ 750,000
Unamortized discount (including unamortized debt issuance cost)	(133,013)	(140,136)
Total long-term portion of notes payable	\$ 616,987	\$ 609,864
Fair value of convertible senior notes outstanding (Level 2)	\$ 687,180	\$ 713,533

5. Income Tax

Our effective tax rate may vary from the U.S. federal statutory tax rate due to the change in the mix of earnings in various state jurisdictions with different statutory rates, benefits related to tax credits, and the tax impact of non-deductible expenses, stock award activities and other permanent differences between income before income taxes and taxable income. The effective tax rate for the three months ended March 31, 2019 and March 31, 2018 was 20.9% and 18.1%, respectively. The variance from the U.S. federal statutory tax rate of 21% for the three months ended March 31, 2019 was primarily attributable to tax deductions related to stock award activities which were recorded as discrete items. The variance from the U.S. federal statutory tax rate of 21% for the three months ended March 31, 2018 was primarily attributable to tax deductions related to stock award activities which were recorded as discrete items in the quarter as well as the release of a valuation allowance relating to our investment in Viking.

6. Stockholders' Equity

We grant options and awards to employees and non-employee directors pursuant to a stockholder approved stock incentive plan, which is described in further detail in *Note 8, Stockholders' Equity*, of Notes to Consolidated Financial Statements in our 2018 Annual Report.

The following is a summary of our stock option and restricted stock activity and related information:

	Stock Options		Restricted Stock Awards	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Grant Date Fair Value
Balance as of December 31, 2018	1,736,304	\$ 66.71	132,273	\$ 130.63
Granted	283,387	118.04	60,857	115.83
Options exercised/RSSUs vested	(92,036)	21.26	(66,078)	106.42
Balance as of March 31, 2019	<u>1,927,655</u>	<u>\$ 76.43</u>	<u>127,052</u>	<u>\$ 136.13</u>

As of March 31, 2019, outstanding options to purchase 1.3 million shares were exercisable with a weighted average exercise price per share of \$51.36.

Employee Stock Purchase Plan

The price at which common stock is purchased under the Amended Employee Stock Purchase Plan, or ESPP, is equal to 85% of the fair market value of the common stock on the first or last day of the offering period, whichever is lower. As of March 31, 2019, 64,008 shares were available for future purchases under the ESPP.

7. Commitment and Contingencies Legal Proceedings

We record an estimate of a loss when the loss is considered probable and estimable. Where a liability is probable and there is a range of estimated loss and no amount in the range is more likely than any other number in the range, we record the minimum estimated liability related to the claim in accordance with ASC 450, *Contingencies*. As additional information becomes available, we assess the potential liability related to our pending litigation and revise our estimates. Revisions in our estimates of potential liability could materially impact our results of operations.

On July 27, 2018, AG Oncon, LLC, AG Ofcon, Ltd., Calamos Market Neutral Income Fund, Capital Ventures International, Citadel Equity Fund Ltd., Opti Opportunity Master Fund, Polygon Convertible Opportunity Master Fund, Wolverine Flagship Fund Trading Limited, as plaintiffs, filed a complaint in the Court of Chancery of the State of Delaware (AG Oncon, LLC v. Ligand Pharmaceuticals Inc.) alleging claims for violation of the Trust Indenture Act, breach of contract, damages and a declaratory judgment that the Supplemental Indenture, dated as of February 20, 2018, entered into by us and Wilmington Trust, National Association, as trustee, is invalid. On October 1, 2018, we filed a motion to dismiss the plaintiffs' complaint. On April 1, 2019, the Court held a hearing on our motion, which is currently pending. We believe the allegations are completely without merit, reject all claims raised by the plaintiffs and intend to vigorously defend this matter.

In November 2017, CyDex, our wholly owned subsidiary, received a paragraph IV certification from Teva alleging that certain of our patents related to Captisol were invalid, unenforceable and/or will not be infringed by Teva's ANDA related to Spectrum Pharmaceuticals' NDA for Evomela. On December 20, 2017, CyDex filed a complaint against Teva in the U.S. District Court for the District of Delaware, asserting that Teva's ANDA would infringe our patents. On March 22, 2018, Teva filed an answer and counterclaims seeking declarations of non-infringement and invalidity as to each of the asserted patents and on April 12, 2018, CyDex filed an answer to Teva's counterclaims. On July 24, 2018, the U.S. District Court entered a Scheduling Order, setting a hearing for April 1, 2019, which was later canceled, and a trial may begin in January 2020.

8. Leases

We lease certain office facilities and equipment primarily under various operating leases. Our leases have remaining contractual terms up to four years, some of which include options to extend the leases for up to five years. Our lease agreements do not contain any material residual value guarantees, material restrictive covenants, or material termination options. Our operating lease costs are primarily related to facility leases for administration offices and research and development facilities, and our finance leases are immaterial.

Lease assets and lease liabilities are recognized at the commencement of an arrangement where it is determined at inception that a lease exists. Lease assets represent the right to use an underlying asset for the lease term, and lease liabilities represent the obligation to make lease payments arising from the lease. These assets and liabilities are initially recognized based on the present value of lease payments over the lease term calculated using our incremental borrowing rate generally applicable to the location of the lease asset, unless the implicit rate is readily determinable. Lease assets also include any upfront lease payments made and lease incentives. Lease terms include options to extend or terminate the lease when it is reasonably certain that those options will be exercised.

Variable lease payments are generally expensed as incurred, include certain index-based changes in rent, and exclude certain nonlease components, such as maintenance and other services provided by the lessor, and other charges included in the lease. Leases with an initial term of 12 months or less are not recorded on the balance sheet, and the expense for these short-term leases and for operating leases is recognized on a straight-line basis over the lease term.

The depreciable life of lease assets and leasehold improvements is limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise.

Operating Lease Assets and Liabilities (in thousands):

	March 31, 2019	Balance Sheet Classification
Lease assets	\$ 4,881	Other assets
Current lease liabilities	\$ (1,187)	Accrued liabilities
Non-current lease liabilities	(4,320)	Other long-term liabilities
Total lease liabilities	\$ (5,507)	

Maturity of Operating Lease Liabilities (in thousands):

Maturity Dates	March 31, 2019
Remaining nine months ending December 31, 2019	\$ 1,279
2020	971
2021	974
2022	1,001
2023	740
Thereafter	1,918
Total lease payments	6,883
Less imputed interest	(1,376)
Present value of lease liabilities	\$ 5,507

As of March 31, 2019, our operating leases have a weighted-average remaining lease term of 6 years and a weighted-average discount rate of 7%. Cash paid for amounts included in the measurement of operating lease liabilities was \$0.5 million for the three months ended March 31, 2019. Operating lease expense was \$0.6 million (net of sublease income of \$0.3 million) for the three months ended March 31, 2019.

9. Subsequent Event

On May 4, 2019, we entered into a development funding and royalties agreement (the "Royalty Agreement") with Novan, pursuant to which we will receive certain payments at specified milestones, as well as royalties on any future net sales of SB206, a product candidate being developed to treat molluscum contagiosum, and any other Novan products used for the treatment of molluscum ("Novan Molluscum Products"). We paid Novan an upfront payment of \$12.0 million, which Novan is required to use to fund the development of SB206. We are not obligated to provide additional funding to Novan for the development or commercialization of SB206.

Pursuant to the Royalty Agreement, we will receive up to \$20.0 million of milestone payments upon the achievement by Novan of certain regulatory milestones for SB206 or any other Novan Molluscum Product and commercial milestones. In addition to the milestone payments, Novan will pay us tiered royalties from 7.0% to 10.0% based on aggregate annual net sales of SB206 or any other Novan Molluscum Product in North America.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Caution: This discussion and analysis may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed in Part II, Item 1A: "Risk Factors." This outlook represents our current judgment on the future direction of our business. These statements include those related to our Captisol-related revenues, our Kyprolis, and other product royalty revenues, product returns, and product development. Actual events or results may differ materially from our expectations. For example, there can be no assurance that our revenues or expenses will meet any expectations or follow any 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 Kyprolis, Captisol and other product revenues to support our ongoing business or that our internal or partnered pipeline products will progress in their development, gain marketing approval or achieve success in the market. In addition, ongoing or future arbitration, or litigation or disputes with third parties may have a material adverse effect on us. Such risks and uncertainties, and others, could cause actual results to differ materially from any future performance suggested. We undertake no obligation to make any revisions to these forward-looking statements to reflect events or circumstances arising after the date of this quarterly report. This caution is made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act.

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 Ligand Pharmaceuticals Incorporated and our wholly owned subsidiaries.

Overview

We are a biopharmaceutical company focused on developing and acquiring technologies that help pharmaceutical companies discover and develop medicines. Over our more than 30 year history, we have employed research technologies such as nuclear receptor assays, high throughput computer screening, formulation science, liver targeted pro-drug technologies and antibody discovery technologies to assist companies in their work toward securing prescription drug approvals. We currently have partnerships and license agreements with over 110 pharmaceutical and biotechnology companies. Over 200 different programs under license with us are currently in various stages of commercialization and development. We have contributed novel research and technologies for approved medicines that treat cancer, osteoporosis, fungal infections and low blood platelets, among others. Our partners have programs currently in clinical development targeting seizure, coma, cancer, diabetes, cardiovascular disease, muscle wasting, liver disease, and kidney disease, among others. We have over 1,200 issued patents worldwide.

We have assembled our large portfolio of fully-funded programs either by licensing our own proprietary drug development programs, licensing our platform technologies such as Captisol or OmniAb to partners for use with their proprietary programs, or acquiring existing partnered programs from other companies. Fully-funded programs, which we refer to as "shots on goal," are those for which our partners pay all of the development and commercialization costs. For our internal programs, we generally plan to advance drug candidates through early-stage drug development or clinical proof-of-concept and then seek partners to continue development and potential commercialization.

Our business model creates value for stockholders by providing a diversified portfolio of biotech and pharmaceutical product revenue streams that are supported by an efficient and low corporate cost structure. Our goal is to offer investors an opportunity to participate in the promise of the biotech industry in a profitable, diversified and lower-risk business than a typical biotech company. Our business model is based on doing what we do best: drug discovery, early-stage drug development, product reformulation and partnering. We partner with other pharmaceutical companies to leverage what they do best (late-stage development, regulatory management and commercialization) to ultimately generate our revenue. We believe that focusing on discovery and early-stage drug development while benefiting from our partners' development and commercialization expertise will reduce our internal expenses and allow us to have a larger number of drug candidates progress to later stages of drug development.

Our revenue consists of three primary elements: royalties from commercialized products, license and milestone payments and sale of Captisol material. In addition to discovering and developing our own proprietary drugs, we selectively pursue acquisitions to bring in new assets, pipelines, and technologies to aid in generating additional potential new revenue streams.

Portfolio Program Updates

Promacta®

- In March 2019 we announced the sale of Promacta to Royalty Pharma for \$827 million in cash. As of March 6, 2019, we will not receive any royalty on sales of Promacta.

Kyprolis® (carfilzomib), an Amgen Product Utilizing Captisol

- On April 30, 2019, Amgen reported first quarter 2019 net sales of Kyprolis of \$245 million, a \$23 million or 10% increase over the same period in 2018.

Recent Acquisitions, Targeted Investments and Partner Funding Events

- We announced a \$3 million investment in Dianomi Therapeutics in exchange for 1) a tiered royalty of 2% or 3% based on level of net sales for the first five products to be approved using Dianomi's patented Mineral Coated Microparticle (MCM) technology, and 2) a loan convertible into \$1 million of equity at the next qualified financing.
- Seelos Therapeutics completed a reverse merger with Apricus Biosciences and is now publicly traded on the Nasdaq Capital Market under the symbol "SEEL". In conjunction with the transaction, Seelos issued common stock and warrants in a private round led by a group of leading venture capital investors, for gross proceeds of \$18 million.
- CStone Pharmaceuticals listed shares on the Hong Kong Stock Exchange and raised \$266 million in an equity offering that, in part, will be used to fund the company's OmniAb-derived Phase 2/3 program CS1001.

Internal R&D

- We announced completion of enrollment of our Phase 1 clinical trial of its internal Captisol-enabled Iohexol program and announced that top-line data from the trial is expected in the third quarter of 2019.

Additional Pipeline and Partner Developments

- Our portfolio of partnerships now includes more than 200 Shots on Goal driven by business development and licensing activity, and the expansion and advancement of OmniAb partnerships.
- Sage Therapeutics announced U.S. FDA approval of ZULRESSO™ (brexanolone) injection for the treatment of postpartum depression. We received a \$3 million milestone payment as a result of the approval. Sage Therapeutics plans to launch ZULRESSO in late June 2019.
- Daiichi Sankyo announced receipt of marketing approval in Japan for MINNEBRO (esaxerenone) for the treatment of hypertension.
- Melinta Therapeutics announced preparation of sNDA for Baxdela in community-acquired bacterial pneumonia with the sNDA expected to be filed in the second quarter of 2019.
- CStone Pharmaceuticals announced dosing of the first patient in a Phase 3 clinical trial assessing OmniAb-derived CS1001 in combination with chemotherapy for the treatment of gastric adenocarcinoma or gastro-esophageal junction adenocarcinoma.
- Viking Therapeutics announced that additional VK2809 Phase 2 data was presented at the 2019 annual meeting of the European Association for the Study of Liver, and that results demonstrated promising efficacy at doses as low as 5 mg daily. Viking also announced plans to initiate a Phase 2b study of VK2809 in biopsy-confirmed NASH in the second half of 2019.
- Metavant updated us that they no longer plan to initiate a clinical proof-of-concept trial this year for RVT-1502 in Type 1 diabetes following requests from FDA for additional non-clinical studies. Metavant is evaluating its development plans for the program and we expect them to provide an update on the status of the program.
- Verona Pharma announced positive interim efficacy and safety data from part one of a two-part Phase 2 clinical trial of a dry powder inhaler formulation of ensifentrine in patients with moderate-to-severe COPD.
- Verona Pharma also announced the European Patent Office granted an additional key patent relating to the company's lead development candidate ensifentrine.
- Sermonix Pharmaceuticals announced a poster presentation on the performance of its lead investigational drug, lasofoxifene, at ENDO 2019 the annual meeting of the Endocrine Society.

- Opthea Limited announced that the independent Data and Safety Monitoring Board for the company's ongoing Phase 2b study of OPT-302 in wet age-related macular degeneration reaffirmed its positive recommendation that the trial continue without modification.
- Aptevo Therapeutics provided an update on OmniAb-derived APVO436 and announced that Phase 1 data is anticipated in the fourth quarter of 2019. New preclinical data for APVO436 was also presented at the American Association for Cancer Research (AACR) 2019 Annual Meeting.
- OmniAb partner xCella Biosciences presented high-throughput functional screening of antibody libraries, highlighting OmniRat and OmniChicken, at the 2019 Protein Engineering Summit (PEGS).

Business Development

- We announced a worldwide license agreement with Genagon Therapeutics AB to use the OmniAb platform technologies to discover fully human antibodies. Genagon is an immuno-oncology biotechnology company located in Sweden. We are eligible to receive development milestone payments and tiered royalties on future product sales.
- We disclosed a worldwide license agreement with a San Francisco Bay Area venture-stage biotechnology company to use the OmniAb platform technologies to discover fully human antibodies. We are eligible to receive development and commercial milestone payments and royalties on future product sales.
- We entered into new Captisol clinical use or commercial license and supply agreements with Merck KGaA, reVision Therapeutics, Takeda and SQ Innovation.

Publications and Presentations

- At PEGS 2019, our scientists announced the launch of OmniClic™, a novel next-generation common light chain OmniChicken-based antibody discovery technology focused on bispecific antibodies.
- Preclinical data of the combination of the BCL-2 inhibitor S55746 and the MCL1 inhibitor S63845, compounds originating from the Servier collaboration and now partnered with Novartis, in models of AML were recently published in the journal Leukemia, demonstrating potential to rapidly suppress leukemia with limited toxicity to normal human bone marrow cells compared to chemotherapy.

Results of Operations

Revenue

(Dollars in thousands)

	Q1 2019	Q1 2018	Change	% Change
Royalties	\$ 19,538	\$ 20,820	\$ (1,282)	(6) %
Material sales	8,959	4,391	4,568	104 %
License fees, milestones and other revenue	14,987	30,946	(15,959)	(52) %
Total revenue	\$ 43,484	\$ 56,157	\$ (12,673)	(23) %

Royalty revenue is a function of our partners' product sales and the applicable royalty rate. Promacta and Kyprolis royalty rates are under a tiered royalty rate structure with the highest tier being 9.4% and 3.0%, respectively. Evomela has a fixed royalty rate of 20%. On March 6, 2019, we sold all of our rights, title and interest in and to the Promacta license to RPI; therefore, the royalty revenue for Promacta only reflected the revenue prior to the sale. Subsequent to March 6, 2019, we will no longer be recognizing revenue related to Promacta. See Note 2 - Sale of Promacta License.

The following table represents royalty revenue by program:

(in millions)	Q1 2019 Estimated Partner Product Sales	Effective Royalty Rate	Q1 2019 Royalty Revenue	Q1 2018 Partner Product Sales	Effective Royalty Rate	Q1 2018 Royalty Revenue
Promacta ⁽¹⁾	\$ 225.1	6.3 %	\$ 14.2	\$ 257.0	6.1 %	\$ 15.6
Kyprolis	247.0	1.5 %	3.8	234.0	1.4 %	3.3
Evomela	4.5	20.0 %	0.9	8.0	20.0 %	1.6
Other	47.9	1.3 %	0.6	42.0	0.7 %	0.3
Total	\$ 524.5		\$ 19.5	\$ 541.0		\$ 20.8

(1) Promacta Q1 2019 estimated partner product sales represent the pro-rated estimated sales prior to the Promacta sale on March 6, 2019.

Total revenue decreased by \$12.7 million, or 23%, to \$43.5 million in Q1 2019 compared to \$56.2 million in Q1 2018 due to a \$20.0 million received from Roivant upon entering into the GRA license agreement during the first quarter of 2018 as well as the sale of Promacta in the first quarter of 2019, partially offset by increased material sales during the first quarter of 2019 primarily related to timing of customer purchases of Captisol for use in clinical trials and in commercialized products.

Operating Costs and Expenses

(Dollars in thousands)	Q1 2019	% of Revenue	Q1 2018	% of Revenue
Costs of sales	\$ 3,858		\$ 788	
Amortization of intangibles	3,503		3,278	
Research and development	11,289		7,407	
General and administrative	11,088		7,643	
Total operating costs and expenses	\$ 29,738	68%	\$ 19,116	34%

Total operating costs and expenses as a percentage of total revenue increased in Q1 2019 compared to Q1 2018. Total operating costs and expenses increased by \$10.6 million or 56%. Cost of material sales increased primarily due to higher material sales as a result of timing of customer purchase. Research and development expenses increased due to timing of internal development costs, the Vernalis acquisition, and amortization of other economic rights during the three months ended March 31, 2019. General and administrative expenses increased primarily due to an increase in headcount-related expenses including share-based compensation and the Vernalis acquisition.

Other Income (Expense)

(Dollars in thousands)	Q1 2019	Q1 2018	Change
Gain from Viking	\$ 17,293	\$ 21,097	\$ (3,804)
Interest income	5,909	875	5,034
Interest expense	(8,906)	(3,480)	(5,426)
Other expense, net	1,874	(221)	2,095
Total other expense, net	\$ 16,170	\$ 18,271	\$ (2,101)

The decreases in the gain from Viking common stock and warrants are driven by the changes in the fair value of the Viking common stock and warrants.

Interest income consists primarily of short-term investment transactions and the change in their fair market value. The increase over the prior period presented is due to the increase in our short-term investment balance as a result of the 2023 Notes financing on May 22, 2018 and the proceeds from the sale of Promacta license in March 2019.

Interest expense includes the 0.75% coupon cash interest expense in addition to the non-cash accretion of discount on our 2019 Notes and 2023 Notes for the three months ended March 31, 2019. The increase from prior period is primarily due to the issuance of the 2023 Notes in May 2018. See *Note 4 - Convertible Senior Notes*.

The increases in Other expense, net, for the three months ended March 31, 2019 as compared to the prior period are due primarily to a \$2.6 million unrealized gain in equity investments, a \$1.5 million decrease in fair value of contingent liabilities associated with our Crystal acquisition based on management's estimates of timing and probability of achievement of certain milestones and revenue thresholds; partially offset by \$2.9 million increase in the fair value of contingent liabilities associated with our Metabasis acquisition.

Income Tax Expense

(Dollars in thousands)	Q1 2019	Q1 2018	Change
Income before income taxes	\$ 842,713	\$ 55,312	\$ 787,401
Income tax expense	(176,376)	(10,033)	(166,343)
Income from operations	\$ 666,337	\$ 45,279	\$ 621,058
Effective tax rate	20.9 %	18.1 %	

We compute our income tax provision by applying the estimated annual effective tax rate to income from operations and adding the effects of any discrete income tax items specific to the period. Our effective tax rate for the first quarter of 2019 and 2018 was approximately 20.9% and 18.1%, respectively. The variance from the U.S. federal statutory tax rate of 21% for the three months ended March 31, 2019 was primarily attributable to tax deductions related to stock award activities which were recorded as discrete items. The variance from the U.S. federal statutory tax rate of 21% for the three months ended March 31, 2018 was primarily attributable to tax deductions related to stock award activities which were recorded as discrete items as well as the release of a valuation allowance relating to our investment in Viking.

Liquidity and Capital Resources

As of March 31, 2019, our cash, cash equivalents, and marketable securities (including our investment in Viking) totaled \$1.5 billion, which were increased by \$727.6 million from last year, due to factors described in the "Cash Flow Summary" below. Our primary source of liquidity, other than our holdings of cash, cash equivalents, and investments, has been cash flows from operations. Our ability to generate cash from operations provides us with the financial flexibility we need to meet operating, investing, and financing needs.

Historically, we have liquidated our short-term investments and/or issued debt and equity securities to finance our business needs as a supplement to cash provided by operating activities. As of March 31, 2019, we had \$1.3 billion in short-term investments. Our short-term investments include U.S. government debt securities, investment-grade corporate debt securities and certificates of deposit. We have established guidelines relative to diversification and maturities of our investments in order to provide both safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates. Additionally, we own certain securities which are classified as short-term investments that we received as a result of a milestone and an upfront license payment as well as 6.0 million shares in Viking.

In August 2014, we issued an aggregate principal amount of \$245.0 million of the 2019 Notes. During 2018, \$217.7 million in principal of the 2019 Notes were converted and \$27.3 million in principal remained outstanding as of March 31, 2019, which will be paid off in cash upon the due date.

In May 2018, we issued an aggregate principal amount of \$750.0 million of the 2023 Notes. A portion of the proceeds from such issuance totaling \$49.7 million were used to repurchase 260,000 shares of our common stock. The 2023 Notes were not convertible as of March 31, 2019. It is our intent and policy to settle conversions through combination settlement, which essentially involves payment in cash equal to the principal portion and delivery of shares of common stock for the excess of the conversion value over the principal portion.

In September 2018, our Board of Directors authorized us to repurchase up to \$200.0 million of our common stock from time to time over a period of up to three years. On January 23, 2019, our Board of Directors increased the share repurchase authorization by \$150.0 million. The repurchases may be completed under a 10b5-1 plan or at management's discretion. Authorization to repurchase \$124 million of our common stock remained available as of March 31, 2019.

We anticipate that our current cash, cash equivalents, and short-term investments, together with cash provided by operating activities are sufficient to fund our near term capital and operating needs for at least the next 12 months. Operating needs include the planned costs to operate our business, including amounts required to fund working capital and capital expenditures. Our primary short-term needs for capital, which are subject to change, include:

- potential early repayment of debt obligations as a result of conversions;
- repurchases of our outstanding common stock;
- the continued advancement of research and development efforts;
- potential strategic acquisitions and investments; and
- the expansion needs of our facilities, including costs of leasing additional facilities.

As of March 31, 2019, we had \$13.6 million in fair value of contingent consideration liabilities associated with prior acquisitions to be settled in future periods.

Leases and Off-Balance Sheet Arrangements

We lease our office facilities under operating lease arrangements with varying terms through April 2023. The agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases of 3.0%. See further information in *Note 8, Leases*. We had no off-balance sheet arrangements at March 31, 2019 and December 31, 2018.

Cash Flow Summary

(Dollars in thousands)

	Q1 2019	Q1 2018
Net cash provided by (used in):		
Operating activities	\$ 45,258	\$ 60,761
Investing activities	94,777	(33,581)
Financing activities	(152,576)	3,224

During the first quarter of 2019 we generated \$827 million from the sale of Promacta and used \$151.6 million to repurchase our common stock. During Q1 2019 and 2018, we generated cash from operations, from issuance of common stock under employee stock plans, and from net proceeds from the sale and maturity of short-term investments. In addition, we used cash for investing activities and net purchases of short-term investments.

Critical Accounting Policies

Certain of our policies require the application of management judgment in making estimates and assumptions that affect the amounts reported in our consolidated financial statements and the disclosures made in the accompanying notes. Those estimates and assumptions are based on historical experience and various other factors deemed applicable and reasonable under the circumstances. The use of judgment in determining such estimates and assumptions is by nature, subject to a degree of uncertainty. Accordingly, actual results could differ materially from the estimates made. There have been no material changes in our critical accounting policies and estimates other than the adoption of the Accounting Standards Updates described in Item 1. Condensed Consolidated Financial Statements - Note 1, "Basis of Presentation and Summary of Significant Accounting Policies," as compared to the critical accounting policies and estimates described in our 2018 Annual Report.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There were no substantial changes to our market risks in the three months ended March 31, 2019, when compared to the disclosures in Item 7A of our 2018 Annual Report.

Item 4. Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined in Rules 13a15(e) and 15d-15(e) under the Exchange Act. Based upon and as of the date of that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports we file or submit pursuant to the Exchange Act is (1) recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (2) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Our disclosure controls were designed to provide reasonable assurance that the controls and procedures would meet their objectives. Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls will prevent all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable assurance of achieving the designed control objectives and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusions of two or more people, or by management override of the control. Because of the inherent limitations in a cost-effective, maturing control system, misstatements due to error or fraud may occur and not be detected.

There have not been any changes in our internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter of the fiscal year to which this report relates that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

For information that updates the disclosures set forth under Part I, Item 3, "Legal Proceedings" in our 2018 Annual Report, refer to *Note 7, Commitment and Contingencies: Legal Proceedings*, to the Condensed Consolidated Financial Statements contained in Part I, Item 1 of this report.

Item 1A. Risk Factors

There have been no material changes to the risk factors included in "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, other than as set forth below:

Our investments are subject to market and credit risks that could diminish their value and these risks could be greater during periods of extreme volatility or disruption in the financial and credit markets, which could adversely impact our business, financial condition, results of operations, liquidity and cash flows.

Our investments are subject to risks of credit defaults and changes in market values. Periods of macroeconomic weakness or recession, heightened volatility or disruption in the financial and credit markets could increase these risks, potentially resulting in other than temporary impairment of assets in our investment portfolio. Any event reducing the estimated fair value of these securities, other than on a temporary basis, could have a material and adverse effect on our business, results of operations, financial condition, liquidity and cash flows. If our investment manager, fails to react appropriately to difficult market, economic and geopolitical conditions, our investment portfolio could incur material losses.

We have a risk management framework in place to identify, assess and prioritize risks, including the market and credit risks to which our investments are subject. As part of that framework, we test our investment portfolio based on various market scenarios. Under certain stressed market scenarios, unrealized losses on our investment portfolio could lead to material reductions in its carrying value.

A decline in fair value below the amortized cost of a security requires management to assess whether an other-than-temporary impairment (OTTI) has occurred. The decision on whether to record an OTTI is determined in part by our assessment of the financial condition and prospects of a particular issuer, projections of future cash flows and recoverability of the particular security as well as management's assertion of whether it is more likely than not that we will sell the particular security before recovery.

Future revenue based on Kyprolis and Evomela, as well as sales of our other products, may be lower than expected.

We receive revenue from Amgen based on both sales of Kyprolis and purchases of Captisol material for clinical and commercial uses. These payments are expected to be a substantial portion of our ongoing revenues for some time. In addition, we receive revenues based on sales of Evomela and other products. Any setback that may occur with respect to any of our partners' products, and in particular Kyprolis, could significantly impair our operating results and/or reduce our revenue and the market price of our stock. Setbacks for the products could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products, as well as higher than expected total rebates, returns, discounts, or unfavorable exchange rates. These products also are or may become subject to generic competition.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

<u>Exhibit Number</u>	<u>Description</u>
2.1	Asset Purchase Agreement, dated March 5, 2019, by and among Ligand Pharmaceuticals Incorporated and RPI Financial Trust (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 5, 2019).
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	Certifications by Principal Executive Officer and Principal Financial Officer, Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
101	The following financial information from our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, formatted in iXBRL (inline eXtensible Business Reporting Language): (i) Consolidated Condensed Balance Sheets, (ii) Consolidated Condensed Statements of Operations, (iii) Consolidated Condensed Statement of Comprehensive Income, (iv) Consolidated Condensed Statements of Stockholders' Equity, (v) Consolidated Condensed Statements of Cash Flows, and (vi) the Notes to Consolidated Condensed Financial Statements.*

* Filed herewith.

SIGNATURES

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 9, 2019

By: /s/ Matthew Korenberg

Matthew Korenberg
Executive Vice President, Finance and Chief Financial Officer
Duly Authorized Officer and Principal Financial Officer

**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.
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**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**

Date: May 9, 2019

/s/ John L. Higgins

John L. Higgins

Chief Executive Officer

(Principal Executive Officer)

**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, Matthew Korenberg, 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.
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**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**

Date: May 9, 2019

/s/ Matthew Korenberg

Matthew Korenberg

Executive Vice President, Finance and Chief Financial Officer

(Principal Financial Officer)

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

In connection with the Quarterly Report of Ligand Pharmaceuticals Incorporated (the "Company") on Form 10-Q for the quarter ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John L. Higgins, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
 - (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.
- Date: May 9, 2019

/s/ John L. Higgins

John L. Higgins
Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

In connection with the Quarterly Report of Ligand Pharmaceuticals Incorporated (the "Company") on Form 10-Q for the quarter ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Matthew Korenberg, Executive Vice President, Finance and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
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(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 9, 2019

/s/ Matthew Korenberg

Matthew Korenberg
Executive Vice President, Finance and Chief Financial
Officer
(Principal Financial Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.